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THE DUBLIN
QUARTERLY JOURNAL
OF
MEDICAL SCIENCE;

CONSISTING OF
ORIGINAL COMMUNICATIONS,
REVIEWS, RETROSPECTS, AND REPORTS,
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10. *Monthly Journal of Medical Science.* Edinburgh: Sutherland and Knox. (Recd. regularly.)
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47. *Zeitschrift für die gesammte Medicin mit besonderer Rücksicht auf Hospitalpraxis und ausländische Literatur.* Von Dr. F. W. Oppenheim. Hamburg. (Recd. Vol. XLII. Parts ii. iii.)

48. *Notizen aus dem Gebiete der Natur-und Heilkunde, gesammelt und mitgetheilt von M. J. Schleiden und Dr. R. Froriep.* Weimar. (Recd. Vol. X. Nos. 2 to 22, with which Number this Periodical concludes.)

49. *Tagsberichte über die Fortschritte der Natur-und Heilkunde, erstattet von R. Froriep zu Weimar.* (Recd. Nos. 1 to 29.)

50. *Zeitschrift für rationelle Medicin; herausgegeben Von Dr. J. Henle und Dr. C. Pfeufer, Professoren der Medizin an der Universität zu Heidelberg.* (Recd. Vol. VIII. Part iii. and Vol. IX. Part i.)

51. *Medecinische Jahrbücher des Kaiserlichen Königlichen Oesterreichischen Staats.* Wien. (Not yet recd.)

52. *Oesterreichische Medicinische Wochenschrift als Ergänzungsblatt der Medicinischen Jahrbücher, &c.* (Not yet recd.)

53. *Journal für Chirurgie und Augenheilkunde herausgegeben von Dr. P. von Walther und Dr. T. A. von Ammon.* Berlin. (Not yet recd.)

54. *Vierteljahrschrift für die praktische Heilkunde, herausgegeben von*
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der medicinischen Facultät in Prag. Borrosch und André. (Recd. 1849, Vols. III. and IV., and 1850, Vol. I.)

55. Forum für Medizinal angelegenheiten im Interesse des Gemeinwohls und des ärztlichen Standes. Redacteur: Dr. Halla. Prag. Borrosch und André. (Recd. Nos. 5 to 21, for 1849.)

56. Jahresbericht über die Fortschritte der gesamten Medicin in allen Ländern. Herausgegeben von Dr. Canstatt und Dr. Eisenmann. Erlangen: Ferdinand Enke. (Recd. for 1848.)

57. Bibliothek for Læger, Tredie Række. Udgivet af Direktionen for de classenske Literaturselskab. Redigeret af H. Selmer. Kjobenhavn. (Not yet recd.)

58. Norsk Magazin, for Lægevidenskaben, udgivet af det medicinske Selskab i Christiania. Redigeret af W. Boeck. Faye. A. W. Münster. Lund. Voss. Christiania: Feilberg & Landmark. (Recd. Vol. III. Parts 1 to 12, 1849, and Vol. IV. Parts 1 to 5, 1850.)

59. Hygiea, Medicinsk och Pharmaceutisk Månads-Skrift. Stockholm: Fritze. (Recd. Vol. XI. Nos. 7, 8, 9.)

60. Gazzetta Medica Lombarda. Diretta dal Prof. Panizza. Formerly the Gazzetta Medica di Milano. Milan. (Not yet recd.)

NOTICES TO CORRESPONDENTS.

THE next Number of the Journal will be published on the 25th of October, with the view of affording timely circulation of the announcements of the Lectures at the Hospitals, Schools, &c.

We regret much being again compelled to trespass on the indulgence of our Subscribers with regard to the Engraving of the late Mr. Carmichael. Mr. E. Finden of London had guaranteed to supply it in sufficient time for this present Number, but has failed to keep his promise. As this is the second time that his—one of the first houses in the trade—has disappointed us, we will not now venture to say more than to express a hope that we shall be enabled to issue it with the November Number.

Our American *friends* put us in some instances to unreasonable expense in forwarding their Publications. A small Pamphlet by Dr. Mettauer of Farmville, Virginia—mentioned in our List of Books Received—cost us 4s. for carriage, a much higher sum than we could have purchased it for through our Publishers were we inclined to possess it.

We are anxious to establish a more complete exchange with the Italian Journals: none of the Numbers of those on our present List have reached us for this Year.

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ii. Report on the District, Local, and Private Lunatic Asylums in Ireland. 1848. Presented to both Houses of Parliament by Command of Her Majesty.	
iii. Seventh Report of the Inspectors to Earl Clarendon, Lord Lieutenant of Ireland, and the Right Hon. Maziere Brady, Lord High Chancellor of Ireland, on the Private Lunatic Asylums in Ireland.	
iv. Outlines of Lectures on the Nature, Causes, and Treatment of Insanity. By Sir Alexander Morison, M. D., Physician to the Bethlem Hospital and the Surrey County Lunatic Asylum. Edited by his son, Thomas C. Morison, late Resident Medical Officer of the Suffolk Lunatic Asylum.	
v. Contributions to Mental Pathology, with the past and present State of the Insane in Ceylon. By James G. Davey, formerly one of the Resident Surgeons of the Hanwell Asylum.	
vi. Short Notes in reply to the above. By J. M. Grant, M. D., Assistant Surgeon to Her Majesty's Forces.	
vii. Familiar Views on Lunacy. By the late Medical Superintendent of an Asylum for the Insane.	
viii. The Journal of Psychological Medicine and Mental Pathology. Edited by Forbes Winslow, M. D.	
ix. Report of Proceedings of the Association of Medical Officers of Hospitals for the Insane in Great Britain and Ireland.	
x. Annual Reports of the District Asylums of Belfast, Maryborough, Clonmel, and Carlow, to March, 1850.	

Recent Publications on Insanity—continued.

- xI. Royal Edinburgh Asylum Annual Report. Dec. 1849.
- xII. Thirtieth Annual Report, Dundee Royal Asylum. June, 1850.
- xIII. Perth Royal Asylum, Twenty-third Annual Report. June, 1850.
- xIV. Crichton Asylum for the Insane, Tenth Annual Report.
- xV. Suffolk County Lunatic Asylum, Annual Report. 1849.
- xVI. General Report of the Royal Hospitals of Bridewell and Bethlem. December, 1849.
- xVII. Annual Report of the Eastern Asylum, Virginia, U. S. A. 1850.
- xVIII. Papers and Prize Essays on Insanity ; read before the Society for the Improvement of the Condition of the Insane.
- 7. The Diseases of the Breast and their Treatment. By John Birkett, F. R. C. S. E., Assistant Surgeon to Guy's Hospital. (The Dissertation to which the Jacksonian Prize for 1848 was awarded by the Council of the College of Surgeons of England), 445
- 8. Surgical Anatomy. By Joseph Maclise, Surgeon. Fasciculus V. and VI., 456
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 - II. A Practical Synopsis of Diseases of the Chest and Air Passages, with a Review of the several Climates recommended in these Affections. By James Bright, M. D.
 - III. The Diagnosis, Pathology, and Treatment of Diseases of the Chest. By W. W. Gerhard, M. D., Lecturer on Clinical Medicine to the University of Pennsylvania, one of the Physicians to the Pennsylvania Hospital, &c.

PART III.—REPORTS, RETROSPECTS, AND SCIENTIFIC INTELLIGENCE.

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1. On Animal Chemistry in its Application to Stomach and Renal Diseases. By H. Bence Jones, M. D., A. M., Cantab., &c. London: Churchill, 1850. 8vo. pp. 139.
2. On the Management of Infancy, with Remarks on the Influence of Diet and Regimen, &c. By Charles Hogg, M. R. C. S. London: Churchill, 1849. 12mo. pp. 132.
3. The Bath Waters, their Uses and Effects in the Cure and Relief of various Chronic Diseases. By James Tunstall, M. D., &c. London: Churchill, 1850. Post 8vo. pp. 144.
4. Review of Dr. Drake's Work on the principal Diseases of the Interior Valley of North America. By Bennett Dowler, M. D., &c. New Orleans: Bills. Pamphlet, pp. 16.
5. Lecture introductory to the Course on Surgery. Delivered at the Massachusetts Medical College in Boston. By Henry J. Bigelow, M. D., &c. Boston: Clapp, 1850. Pamphlet, pp. 24.
6. Cholera, with reference to the Geological Theory. A Proximate Cause. A Law by which it is governed. A Prophylactic. By John Lea. Cincinnati: Wright, Ferris, and Co., 1850. Pamphlet, pp. 25.

7. Twentieth Annual Report of the Belfast District Asylum for the Insane Poor of the Counties of Antrim and Down, and County of the Town of Carrickfergus, for the Year ended the 31st of March, 1850. Drawn up by the Resident Physician. Belfast: Finlay, 1850. Pamphlet, pp. 28.

8. The Races of Man. A Fragment. By Robert Knox, M. D., &c. London: Renshaw, 1850. Post 8vo. pp. 479.

9. Dietetical and Medical Hydrology. A Treatise on Baths, including Cold, Sea, Warm, Hot, Vapour, Gas, and Mud Baths; also on the Watery Regimen, Hydropathy, and Pulmonary Inhalation; with a Description of Bathing in ancient and modern Times. By John Bell, M. D., &c. Philadelphia: Barrington and Haswell, 1850. 12mo. pp. 658.

10. The Diagnosis, Pathology, and Treatment of the Diseases of the Chest. By W. W. Gerhard, M. D., &c. Third Edition, revised and enlarged. Philadelphia: Barrington and Haswell, 1850. 8vo. pp. 348.

11. A Systematic Treatise, Historical, Etiological, and Practical, on the principal Diseases of the Interior Valley of North America, as they appear in the Caucasian, African, Indian, and Esquimaux Varieties of its Population. By Daniel Drake, M. D. Cincinnati: Smith and Co., 1850. 8vo. pp. 878.

12. Dr. Webster's Remarks on the Health of London. Read before the Westminster Medical Society, April 13, 1850. (From the London Journal of Medicine for June, 1850.) Pamphlet, pp. 15.

13. Trichophyton Tonsurans. Hårskärande Mögel. Bidrag till Utredande af de Sjukdomar, som Vålla Hårets Affall. Af P. H. Malmsten. Stockholm: Hjerta, 1845. Pamphlet, pp. 16.

14. The Principles of Surgery. By James Miller, F. R. C. S. E., &c. Second Edition. Edinburgh: Adam and Charles Black, 1850. 8vo. pp. 803.

15. In Pharmacopœam Suecicam, Commentarius Medico-practicus. Auctore Nic. Joh. Berlin. Lund: Gleerup, 1846. 12mo. pp. 172.

16. Cholera and its Cures; an Historical Sketch. By J. Stevenson Bushnan, M. D., &c. London: Orr and Co., 1850. 8vo. pp. 169.

17. Treatise on Diseases of the Larynx and Trachea, embracing the different Forms of Laryngitis, Hay Fever, and Laryngismus Stridulus. By John Hastings, M. D., &c. London: Longmans, 1850. 8vo. pp. 160.

18. Das Krampfhaftes Asthma der Erwachsenen. Von Dr. J. Bergson. Nordhausen: Adolph Büchting, 1850. 8vo. pp. 149.

19. Short Notes in reply to Dr. Davey's Work, entitled, "Contributions to Mental Pathology;" with a brief Notice of Dr. Davey's Official Career in Ceylon, carefully collected from Official Documents and Information. By J. M. Grant, M. D., Assistant Surgeon to Her Majesty's Forces. Colombo: Assey, 1850. 12mo. pp. 110.

20. Oratio Harveiana in Ædibus Collegii Regalis Medicorum habita, die Junii xxix. MDCCCL. A Jacobo Arturo Wilson, M. D. Londini, 1850. 8vo. pp. 29.

21. Practical Suggestions for the Prevention of Consumption. By G. Calvert Holland, M. D., &c. London: Orr, 1850. 8vo. pp. 143.

22. A Practical Synopsis of Diseases of the Chest and Air Passages, with a Review of the several Climates recommended in these Affections. By James Bright, M. D. London: Churchill, 1850. 12mo. pp. 271.

23. Elémens de Morphologie Humaine. Pour servir a l'étude des Races. Par J. E. Cornay (de Rochefort), D. M., &c. Paris: Labé, 1850. 18mo. in three Parts pp. 117, 134, and 95.

24. The Pharmacopœia of the King and Queen's College of Physicians in Ireland, MDCCCL. Dublin: Hodges and Smith, 1850. 8vo. pp. 191.

25. *The Cyclopædia of Anatomy and Physiology.* Edited by Robert B. Todd, M. D., F. R. S., &c. London: Longmans, 1850. Part XL. "Tongue" to "Urethra."

26. *The Anatomy, Physiology, and Pathology of the Eye.* By Henry Howard, M. R. C. S. L., Surgeon to the Montreal Eye and Ear Institution. Montreal: Armour and Ramsay. London: Churchill, 1850. 8vo. pp. 517.

27. *Corpulence, or Excess of Fat in the Human Body; its Relations to Chemistry and Physiology, its Bearings on other Diseases, and the Value of Human Life, and its Indications of Treatment.* With an Appendix on Emaciation. By Thomas King Chambers, M. D. London: Longmans, 1850. Post 8vo. pp. 166.

28. *A Selection of Papers and Prize Essays on Subjects connected with Insanity.* Read before the Society for Improving the Condition of the Insane. London: Published by the Society, 1850. 8vo. pp. 200. With Three Plates.

29. *Report of the General Board of Health on the Epidemic Cholera of 1848 and 1849.* Presented to both Houses of Parliament, by command of Her Majesty. London: Clowes and Son, 1850. 8vo. pp. 159.

30. *The Phenomena of Pestilential Cholera, in relation to the Grade of Attack, and the Treatment; its Pathology, Origin, and Spread; and the Means of Prevention.* By G. M'Culloch, M. D., F. R. C. S. I., and A. C. Maclaren, M. R. C. S. E. London: Churchill, 1850. 8vo. pp. 123.

31. *A practical Treatise on the Therapeutic Uses of Terebinthine Medicines; with Observations on Tubercular Consumption, Gout, Mineral Waters, &c.* By Thomas Smith, M. D., late Physician to the Cheltenham General Hospital, &c. London: Longman, 1850. 8vo. pp. 95.

32. *Der Kriegs-und Friedens-Typhus in den Arméén. Ein Beitrag zu einer Künftigen Gesundheitspflege in den Kriegsheeren.* Von Dr. C. F. Riecke. Neue Ausgabe. Nordhausen: Büchting, 1850. 8vo. pp. 378.

33. *Die Asiatische Cholera und die Gesundheitspflege. Ein Beitrag zu Erforschung und Bekämpfung dieser neuen Volksseuche.* Von Dr. C. F. Riecke. Nordhausen: Büchting, 1850. 8vo. pp. 82.

34. *Appendix (A) to the Report of the General Board of Health, on the Epidemic Cholera of 1848 and 1849.* Report by Dr. Sutherland. Presented to both Houses of Parliament, by command of Her Majesty. London, 1850. 8vo. pp. 164.

35. *Appendix (B) to the Report of the General Board of Health, on the Epidemic Cholera of 1848 and 1849.* Report by Mr. Grainger. Presented to both Houses of Parliament, by command of Her Majesty. London, 1850. 8vo. pp. 200.

36. *On a new and successful Treatment for Febrile and other Diseases, through the medium of the Cutaneous Surface. Illustrated with Cases.* By W. Taylor, M. R. C. S. E., &c. London: Churchill, 1850. 12mo. pp. 170.

37. *Deafness practically illustrated; being an Exposition of Original Views, as to the Nature, Causes, and Treatment of Diseases of the Ear.* By James Yearsley, M. R. C. S. E., &c. London: Churchill, 1850. 12mo. pp. 244.

38. *The Hunterian Lectures for 1850.* Delivered at the Royal College of Physicians, London. By R. B. Todd, M. D., F. R. S. On the Pathology and Treatment of Delirium and Coma. (From the London Medical Gazette, 1850). Pamphlet, pp. 72.

39. *Pathology of the Human Eye.* By John Dalrymple, F. R. C. S. London: Churchill, 1850. 4to. Fasciculus V.

40. *Surgical Anatomy.* By Joseph Maclise, Surgeon. London: Churchill, 1850. Folio. Fasciculus VI.

41. *Portraits of Diseases of the Skin.* By Erasmus Wilson, F. R. S. London: Churchill, 1850. Folio. Fasciculus VII.
42. *Medical Portrait Gallery.* Published under the superintendence of T. M. Stone, Esq., Librarian to the Royal College of Surgeons of England: "Mr. Skey, Mr. Avery, Mr. Hancock, Mr. Paget, Dr. J. Forbes, Dr. E. Forbes, and Sir W. Ellis." ●
43. *Mémoires de l'Académie Nationale de Médecine.* Tome XIV. accompagné de quatre planches. Paris: Baillière, 1850. 4to. pp. 847.
44. *The Assurance Magazine,* No. L, September, 1850. London: Pate-man. 8vo. pp. 121.
45. *Contributions to the History, Diagnosis, and Treatment of Croup.* By John Ware, M. D. (From the Boston Medical and Surgical Journal.) Pamphlet, pp. 21.
46. *On the Origin of Inflammation of the Veins, and on the Causes, Consequences, and Treatment of Purulent Deposits.* By Henry Lee, F. R. C. S., &c. London: Renshaw, 1850. 8vo. pp. 91.
47. *The British Journal of Homœopathy.* No. XXXIV. London: Highley, October, 1850.
48. *Hydrocephalus re-considered, and its Relations to Inflammation and Irritation of the Brain defined; with Cases from Hospital and Private Practice in Exemplification of its Pathology, Prevention, and successful Treatment.* By T. W. Cooke, M. R. C. S., &c. London: Highley, 1850. 12mo. pp. 112.
49. *Epidemics examined and explained, or Living Germs proved by Analogy to be a Source of Disease.* By John Groves, M. R. C. S. L. London: Ridgway, 1850. 8vo. pp. 192.
50. *Address to the Medical Students of London.* Session 1850-51. By J. Stevenson Bushnan, M. D. London: Churchill, 1850. Pamphlet, pp. 16.
51. *The Historical Relations of ancient Hindu with Greek Medicine, in connexion with the Study of modern Medical Science in India; being a general Introductory Lecture, delivered June, 1850, at the Calcutta Medical College.* By Allan Webb, M. D., &c., Surgeon to the Bengal Army. Calcutta: Sherrieff, 1850. Pamphlet, pp. 34.

BOOKS AND PERIODICALS WITH WHICH THE DUBLIN QUARTERLY JOURNAL IS EXCHANGED.

1. *The British and Foreign Medico-Chirurgical Review and Journal of Practical Medicine.* London: Highley. (Recd. No. 12.)
2. *The Edinburgh Medical and Surgical Journal; exhibiting a concise View of the latest and most important Discoveries in Medicine, Surgery, and Pharmacy.* Edinburgh: Black. (Recd. No. 185.)
3. *Transactions of the Medical Society of London.*
4. *The Transactions of the Provincial Medical and Surgical Association.* London: Churchill.
5. *The Retrospect of Medicine, being a half-yearly Journal, containing a retrospective View of every Discovery and practical Improvement in the Medical Sciences.* Edited by W. Braithwaite. London: Simpkin and Co.
6. *The Half-Yearly Abstract of the Medical Sciences, being a practical and analytical Digest of the principal British and Continental Medical Works, &c.* Edited by W. H. Ranking, M. D. London: Churchill.
7. *Guy's Hospital Reports.* London: Highley. (Not yet recd.)

8. *Pharmaceutical Journal and Transactions*. London. Edited by Jacob Bell. (Recd. regularly.)

9. *The London, Edinburgh, and Dublin Philosophical Magazine and Journal of Science*. Conducted by Sir David Brewster, Richard Taylor, Richard Phillips, and Sir Robert Kane. London: Taylor. (Recd. regularly.)

10. *Monthly Journal of Medical Science*. Edinburgh: Sutherland and Knox. (Recd. regularly.)

11. *The Chemist, a Monthly Journal of Chemical Philosophy and of Chemistry*. Edited by C. and J. Watt. London: Eicke. (Recd. Nos. 6 to 11, and 13.)

12. *London Medical Gazette, or Journal of Practical Medicine*. London: Longmans. (Recd. regularly.)

13. *The Medical Times*. London: John Churchill. (Recd. regularly.)

14. *Provincial Medical and Surgical Journal*. Edited by W. H. Ranking, M. D., and J. H. Walsh, F. R. C. S. E. London: Churchill. Worcester: Deighton and Co. (Recd. regularly.)

15. *London Journal of Medicine, a Monthly Record of the Medical Sciences*. London: Taylor, Walton, and Maberly. (Recd. regularly.)

16. *The Journal of Psychological Medicine and Mental Pathology*. Edited by Forbes Winslow, M. D. London: Churchill. (Recd. No. 12.)

17. *Annals of Anatomy and Physiology*. Conducted by John Goodsir, F. R. S. Edinburgh: Sutherland and Knox. (Not yet recd.)

18. *The Quarterly Medical Recorder; being a Digest of the Progress of Practical Medicine, Surgery, Obstetrics, Medical Jurisprudence, and Pharmacy*. Edited by W. Raleigh Baxter, M. D. (Recd. Part II.)

19. *The Athenæum—Journal of English and Foreign Literature, Science, &c.* London. (Recd. regularly.)

20. *The American Journal of the Medical Sciences*. Edited by Isaac Hays, M. D. Philadelphia: Lea and Blanchard. (Recd. Nos. 38 and 39.)

21. *The Medical Examiner and Record of Medical Science*. Edited by F. G. Smith, M. D. Philadelphia: Lindsay and Blakiston. (Recd. Nos. 3 to 8 of Vol. VI.)

22. *The New York Journal of Medicine and the Collateral Sciences*. Edited by S. S. Purple, M. D. New York: Hudson. (Recd. Vol. V. No. 1.)

23. *The American Journal of Science and Arts; conducted by Professors Silliman and B. Silliman, Jun., and J. D. Dana*. New Haven. (Recd. Nos. 28 and 29.)

24. *The American Journal of Insanity*. Edited by the Officers of the New York State Lunatic Asylum, Utica. (Not yet recd.)

25. *The British American Medical and Physical Journal*. Montreal. (Recd. regularly.)

26. *The American Journal and Library of Dental Science*. Published under the auspices of the American Society of Dental Surgeons. (Recd. Nos. 2 and 3, Vol. X., No. 1. not recd.)

27. *The Boston Medical and Surgical Journal*. Boston: Clapp. (Recd. Nos. 230 and 231.)

28. *Gazette Médicale de Paris*. Paris. (Recd. regularly.)

29. *Nouvelle Encyclographie des Sciences Médicales*. Publiée par une Société de Médecins. (Recd. Vols. VI. and VII.)

30. *Journal de Chimie Médicale, de Pharmacie, de Toxicologie, et Revue des nouvelles, scientifiques, nationales et étrangères, &c.* Paris: Labé. (Recd. regularly.)

31. *Journal de Pharmacie et de Chimie, &c.* Paris: Victor Masson. (Recd. regularly).
32. *L'Union Médicale, Journal des intérêts scientifiques et pratiques, moraux et professionnels du Corps médical.* Paris. (Recd. regularly.)
33. *La Lancette Française, Gazette des Hôpitaux civils et militaires.* Paris. (Recd. regularly.)
34. *Revue Médicale Française et étrangère, Journal des Progrès de la médecine hippocratique.* Par J. B. Cayol. Paris. (Recd. regularly.)
35. *Revue Médico-Chirurgicale de Paris.* Sous la Direction de M. Malgaigne. (Recd. regularly.)
36. *Archives générales de Médecine; Journal Complémentaire des Sciences Médicales.* Paris: Labé. (Recd. regularly)
37. *Bulletin de l'Académie Nationale de Médecine.* Paris: Baillière. (Recd. Vols. XI, XII, and XIV.; Vol. XIII. not recd.)
38. *Journal des Connaissances Médico-Chirurgicales.* Paris: Dr. A. Martin Lauzer. (Recd. regularly.)
39. *Journal de Médecine et de Chirurgie Pratiques à l'Usage des Médecins Praticiens.* Par Lucas Champonnière. Paris. (Recd. regularly.)
40. *Recueil de Médecine Vétérinaire Pratique.* Paris: Labé. (Recd. Vol. VII. Nos. 5, 6, and 7.)
41. *Journal des Connaissances Médicales pratiques et de Pharmacologie.* Paris. (Recd. regularly.)
42. *Annales Médico-Psychologiques.* Par MM. Baillarger, Brierre de Boismont, et Cerise. Paris: Victor Masson. (Recd. regularly.)
43. *Bulletin Général de Thérapeutique, Médicale et Chirurgicale. Recueil Pratique, Publié par le Docteur Debout.* Paris. (Recd. regularly.)
44. *Annales de la Société de Médecine d'Anvers (établie à Willebroeck.) Boom.* (Not yet recd.)
45. *Bulletin des Travaux de la Société Médico-Pratique de Paris.* (Not yet recd.)
46. *Annales d'Oculistique, publiées par le Dr. Florent Cunier, Bruxelles.* (None of the Nos. for this Year recd.)
47. *Zeitschrift für die gesammte Medicin mit besonderer Rücksicht auf Hospitalpraxis und ausländische Literatur.* Von Dr. F. W. Oppenheim. Hamburg.
48. *Tagsberichte über die Fortschritte der Natur-und Heilkunde, erstattet von R. Froriep zu Weimar.*
49. *Zeitschrift für rationelle Medicin; herausgegeben Von Dr. J. Henle und Dr. C. Pfeufer, Professoren der Medizin an der Universität zu Heidelberg.*
50. *Medecinische Jahrbücher des Kaiserlichen Königlichen Oesterreichischen Staats.* Wien. (Not yet recd.)
51. *Oesterreichische Medicinische Wochenschrift als Ergänzungsblatt der Medicinischen Jahrbücher, &c.* (Not yet recd.)
52. *Journal für Chirurgie und Augenheilkunde herausgegeben von Dr. P. von Walther und Dr. T. A. von Ammon.* Berlin. (Not yet recd.)
53. *Vierteljahrschrift für die praktische Heilkunde, herausgegeben von der medicinischen Facultät in Prag.* Borrosch und André.
54. *Forum für Medizinal angelegenheiten im Interesse des Gemeinwohls und des ärztlichen Standes.* Redacteur: Dr. Halla. Prag. Borrosch und André.

55. Jahresbericht über die Fortschritte der gesammten Medicin in allen Ländern. Herausgegeben von Dr. Canstatt und Dr. Eisenmann. Erlangen : Ferdinand Enke. (Recd. Parts 1, 5, and 6, for 1849.)

56. Bibliothek for Læger, Tredie Række. Udgivet af Direktionen for de classenske Literaturselskab. Redigeret af H. Selmer. Kjobenhavn.

57. Norsk Magazin, for Lægevidenskaben, udgivet af det medicinske Selskab i Christiania. Redigeret af W. Boeck. Faye. A. W. Münster. Lund. Voss. Christiania : Feilberg & Landmark.

58. Hygiea, Medicinsk och Pharmaceutisk Månads-Skrift. Stockholm : Fritze.

59. Gazzetta Medica Lombarda. Diretta dal Prof. Panizza. Formerly the Gazzetta Medica di Milano. Milan. (Not yet recd.)

NOTICES TO CORRESPONDENTS.

In our present Number we complete the Report of the Proceedings of the Pathological Society of Dublin, to the close of the session 1849-50. We purpose to commence those for the forthcoming session in our Number for February, and to continue them regularly for the future.

We have received several Papers issued by a Committee in London, which has been established with the praiseworthy object of presenting Mr. Walker with a National Testimonial, as a recognition of his services in the cause of health by obtaining the abolition of interments of the dead in the midst of the living. For years long, Mr. Walker, a member of our Profession, has devoted his health, his strength, and his means to this most important object; and having at length obtained the sanction of his exertions by the Legislature,—an Act of Parliament to prevent intra-mural interments, so far as London is concerned, having become the law of the land in the last session,—he has received the usual reward bestowed on medical men who sacrifice their own interests to the public weal,—*official neglect*. To remedy in some measure this, so great a wrong, is the object of the Committee, and they invite all who regard with favour the cause of Sanitary Reform to assist them. We wish them every success in their laudable efforts, and it is with this view that we have thus brought the matter shortly before our readers. The office of the Committee is at 6A, Waterloo-place, London.

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PART I.
ORIGINAL COMMUNICATIONS.

ART. I.—*Contributions to Midwifery, No. VII. Observations on the Use of Chloroform in Conjunction with Ergot of Rye in Parturition.* By THOMAS EDWARD BEATTY, M. D., M. R. I. A., President of, and Professor of Midwifery to the Royal College of Surgeons in Ireland; Physician to the City of Dublin Hospital; Consulting Accoucheur to the South-eastern Lying-in Hospital; Vice-President of the Dublin Obstetrical Society; Honorary Member of the Obstetrical Society of Edinburgh, &c. &c.

THE observations contained in the following pages were communicated to the Dublin Obstetrical Society on two different occasions, the last being the monthly meeting held in April of the present year. From the cases detailed, it will appear that I have been an early labourer in the field of investigation respecting the merits of chloroform as an anæsthetic agent in parturition; but I have purposely abstained from publishing

the results of my experience in this most interesting and important research, until I had tested the accuracy of my conclusions by repeated investigations. In a matter like the present, where a variety of conflicting opinions are entertained, and where the usual, and even more than the usual amount of scepticism that attends the introduction of every improvement in medicine is found to prevail, it is the imperative duty of all who have had opportunities of ascertaining the value of the newly proposed means, to weigh well and consider in all its bearings the plan, or remedy, before the stamp of approval is placed upon it.

Actuated by such feelings, I have for a long time carefully investigated the value of chloroform as an anæsthetic agent in labour, and I have fully satisfied myself that it is possessed of the powers ascribed to it by the distinguished Professor, Dr. Simpson, who first employed and recommended it for this purpose; and moreover, that its employment, *when properly conducted*, is not attended with any injurious effects upon either mother or child. I have never seen any unpleasant result from it, and I believe that, out of the many thousand cases in which this agent has been employed in parturition, not a single case of death has occurred from its use. The immunity from danger in this class of cases may be ascribed to two causes, viz.:—First, the position of the patient, and second, the condition of her stomach with respect to repletion. The horizontal posture is that in which the peculiar effects of chloroform are most easily produced, and in which consequently the least quantity is required to produce anæsthesia. That is the position in which it is always administered to the parturient woman; while in many surgical operations, and particularly in tooth-drawing, the patient is placed in the upright position, when a larger quantity of the drug must be used, and in such cases it is that fatal results have most frequently occurred. With respect to the second cause, viz., the repletion of the stomach, it has been proved most satisfactorily,

that if chloroform be administered when the stomach is full, dangerous effects are more readily produced, and fatal consequences are more likely to ensue. Now in cases of parturition, it seldom happens that the use of chloroform is commenced until some hours have elapsed after the commencement of labour, and during all that time the patient is little disposed to take any food, so that when the time arrives at which it may be deemed prudent to administer chloroform, the stomach is empty, and thus another cause of immunity from danger is secured to the parturient woman. These circumstances have, no doubt, contributed to save the class of cases under consideration from injurious effects, and ought to encourage the timid and wavering to lay aside prejudice, and be guided by sound principles and experience. Let it not be forgotten, however, that the grand desideratum in the use of chloroform is its purity. Without this there is no security against unpleasant consequences. The pure agent is harmless when properly administered; but the impure, with similar precautions in the mode of using it, is sure to cause cough, spasm of the chest, delirium, and excitement, before the anæsthetic effects are produced, and headach, with congestion of the brain, after. Various means have been proposed for testing chloroform, but they were all difficult in their application, and unlikely to be employed by persons in active and extensive practice.

To Dr. W. Gregory we are indebted for the description of a method whereby any one, however engaged in practice or unused to chemical investigations, can for himself test every drop of chloroform he employs by a simple process.

Dr. Gregory's paper was read before the Royal Society of Edinburgh in March, 1850, and was subsequently printed in the *Monthly Journal* of that city(*a*). The paper is of great value, and should be carefully studied by all who are interested in the success of anæsthetic treatment. He ascribes the injurious effects of the chloroform in ordinary use to the presence

(*a*) *Monthly Journal of Medical Science*, p. 414, May, 1850.

of certain volatile oily impurities, which must be removed before it can be safely employed. These oils contain chlorine, have a disagreeable smell, and when inspired or smelt cause distressing headach and sickness. It is, therefore, highly probable that when these symptoms occur, as they do with some individuals, from the use of chloroform of more than the average goodness of quality, they depend on the presence of a trace of these poisonous oils. The test which Dr. Gregory recommends for these impurities is agitation of the chloroform with sulphuric acid, which should be quite colourless, pure, and of the full density of 1·840 at least. This, when agitated with the impure chloroform, becomes yellow or brown, from its action on the oils, which it chars and destroys. Any change of colour is easily seen by the contact with the colourless chloroform that floats above. Pure chloroform gives no colour to the acid. As this is a subject upon which too much stress cannot be laid, I will beg leave to transcribe Dr. Gregory's instructions for the purification of the adulterated drug :

“ The chloroform having been tested as above, and found more or less impure, is to be agitated with oil of vitriol (half its volume will be sufficient), and allowed to remain in contact with the acid, of course in a clean, dry, stoppered bottle, and with occasional agitation, till the acid no longer becomes darker in colour. As long as the action is incomplete there will be seen after rest at the line of contact a darker ring. When this no longer appears, the chloroform may be drawn off, and for greater security once more acted on by a quarter of its volume of the acid, which should now remain colourless. It is now to be once more drawn off, and in a dry, stoppered bottle mixed with a little powdered peroxide of manganese, with which it is gently agitated, and left in contact until the odour of sulphurous acid is entirely destroyed, and the chloroform has acquired a mild, agreeable, fruity smell. It has then only to be poured off into a proper phial. It will now leave no disagreeable smell when evaporated on the hand.

“ Mr. Kemp has observed, in repeating this process for me, the very curious fact, that as soon as the action is complete, and the oily impurities are destroyed, but not sooner, the chloroform, tested with the acid in a tube, exhibits a strongly convex surface downwards, where it rests on the pure acid, or, what is the same thing, the acid becomes concave at its upper surface. The smallest trace of impurity, not sufficient to affect the density of the chloroform, we have found to render the line of junction horizontal.”

We have thus in our power a very simple means of testing and purifying chloroform before employing it; and if strict attention be paid to this most important point, I have little doubt much of the prejudice which still prevails against the use of this remedy will be removed. The purity of the drug being secured, the next important consideration is the manner of using it. I have always administered it on a pocket handkerchief, as was first advised by Dr. Simpson, and I see every reason to prefer this mode. It secures a due admixture of atmospheric air with the vapour of chloroform, a circumstance of great importance in the commencement of the process; for the slow and gradual admission of the vapour into the lungs, when the drug is pure, produces a weak anæsthetic effect at first, which, however, by a perseverance in the inhalation, becomes more and more intense, but by slow degrees, and in a manner that is quite discernible by the administrator, and can be arrested at any moment by withdrawing the handkerchief. This command over the quantity and quality of the inhaled vapour cannot, I think, be attained in the use of any of the inhalers that have been proposed.

The best and simplest of them is that invented by Dr. Fleming of this city; and in operative surgery, where the deepest form of anæsthesia is required, it answers perfectly, and with a very small consumption of the fluid. I do not propose to enter into a detailed description of the method of using this agent, this has been done already by Dr. Simpson, and by Dr.

Murphy of London, to the first of whom we are indebted for the introduction of this valuable addition to obstetric medicine, and to the latter for his able and impartial investigation of the subject. The practical and candid communication of Dr. Denham, published in this Journal, contributed in no small degree to place the value of this remedy in its true light.

I may just state generally that in ordinary cases I commence the administration when the os uteri is nearly dilated; then I pour about two drachms, at first, on the folded handkerchief, which is held at a distance of five or six inches from the patient's face as she lies on her side, and is slowly approached nearer and nearer until the edges of the handkerchief overlap the upper part of the cheek. That in ordinary labour I never produce insensibility, but as soon as the breathing becomes at all loud I remove the handkerchief and suffer the effects to subside, and then recommence the process. By this means the patient is never deprived of consciousness, but she is relieved from the agony of her labour pains, and also from that distressing and continuing ache in the back in the interval between the pains, of which some women complain so loudly. They are conscious of the uterine effort being made, and use the ordinary straining to assist it, but they suffer little or no inconvenience.

To be able to accomplish this with safety to the mother and her infant,—to hear a woman declare immediately after her delivery that her labour was heaven,—is no small triumph of art, and will be a lasting memorial of the genius and perseverance of Dr. Simpson. The stage of excitement which has been observed in some cases wherein chloroform was employed is, I have no doubt, attributable to the use of an impure specimen, and is not to be expected when the pure drug is employed in the manner just described. As a proof of the happy effect produced upon patients treated after this fashion, I may state that those who have once used the inhalation have called loudly and early for it in subsequent labours.

That injurious and fatal results have followed the use of chloroform in surgical practice I do not mean to deny, though no fatal case has ever occurred in midwifery, principally for the reasons already stated; but in the majority of the unfortunate cases, some satisfactory reason will be discovered to account for what occurred. The upright position, a full stomach, an over dose, or an impure medicine,—these, or some of them, will be found to have been present in such cases, and will be quite sufficient to satisfy a fair and candid inquirer that the blame should be laid on the incautious employer rather than on the agent employed. There is now no excuse if we fall into the mistakes that others have made, and that have been discovered and pointed out by the investigations of patient inquirers. Who now-a-days fears to prescribe opium, arsenic, or prussic acid to remove disease? and who will deny the deadly nature of these substances when incautiously used? All are aware of the powers of these poisons, but have learned by their own experience and that of others how to prepare them, and apportion the dose so as to keep within the limits of danger and yet secure the effects they wish to produce. And so it must be with chloroform: it is far too valuable and too powerful a substance to escape the strict scrutiny of science; our acquaintance with it is short, we cannot be supposed as yet to be familiar with all its properties; and it is no reason that a hasty judgment of condemnation should be passed upon it if it has been awkwardly and rashly employed by some in the infancy of the invention. I do not dwell for one moment upon the proposition that it is the duty of the obstetric physician to conduct his patient through her labour, with as much speed and as little suffering as are compatible with the safety of herself and her offspring. To argue upon a proposition so self-evident would be but waste of time and words. That we are possessed of an agent whereby this great object can be accomplished is proved by the many thousand cases in which chloroform has been employed.

The use and value of this drug in natural and operative cases has been fully set forth in the essays already mentioned, and I do not wish to occupy time and space by quoting from my case book instances of this description ; suffice it to say, that I have employed it freely and with the greatest satisfaction to myself and my patients for more than two years. My principal object in this communication is to show how chloroform can be advantageously used in a class of cases that seem almost to forbid its employment, I allude to tedious labours produced by sluggishness of the uterus. If the first effect of a good dose of chloroform be the arrest of uterine action for a short time, a fact admitted by Dr. Murphy, and borne out by my own experience, it follows, as a matter of course, that if the pains be slow and weak, they will be the more surely and effectually interfered with. Now, it has happened to me to have patients under my care who were determined to inhale chloroform during labour, and who were most clamorous to get it at a time when the uterus was indisposed to act with vigour and celerity. To give the vapour, so long as matters thus stood, would have only increased the evils and protracted the labour; but by combining the use of ergot of rye with chloroform the difficulty was quite removed. In order to illustrate this practice, I will set forth some of the cases in which I have derived the greatest advantage from such a proceeding.

CASE I.—Mrs. W. was attended by me for the first time in September, 1848, having had several children previously. During the last month of her pregnancy she was in a very distressing state of mental depression, and spoke continually with apprehension of danger and death in her approaching confinement. She expressed a strong desire to be treated with chloroform, and was quite pleased when I promised to let her have it. Labour came on at the proper time, commencing with slight pains, which continued, with little increase in strength or frequency, from an early hour in the morning until night.

She was in a state of great alarm and solicitude throughout the day, and remained thus until 10 o'clock, P. M., when, finding no improvement in the character of the labour, I gave her a drachm of ergot of rye in two doses, at an interval of a quarter of an hour. This soon established full uterine action, and in twenty minutes she was in strong labour. She now became very much excited and unruly, dashing herself about in the bed, and could not be prevailed on to remain quiet. To obtain the promised chloroform was her only object, and she clamoured loudly for its administration. Finding that labour was now fully established, and that the os uteri was nearly dilated, I commenced the use of chloroform from a pocket-handkerchief, on which I had poured one drachm of the fluid. This was at 11 o'clock, P. M., and almost immediately a complete calm ensued; she became tranquil and composed, and never afterwards betrayed the least want of temper. Her consciousness never deserted her. She continued to speak rationally all through, and expressed the greatest delight from the inhalation.

She was safely delivered of a living boy at half-past 12 o'clock, A. M. When asked what she thought of the medicine, she said it was heaven, that she was conscious of every pain, and could make the effort to bear down, but felt no suffering. This lady had been subject to intense nervous headaches after all her previous confinements, on which occasions the pain and intolerance of light were so great, that she was obliged to have every ray of light excluded from her chamber, and the most perfect stillness observed in the house. The attacks usually lasted from twenty-four to thirty-six hours, when they gradually subsided. On the present occasion, however, nothing of the kind occurred. When I called to pay my visit the following day, I found the shutters open, and the chamber full of light. My patient lay perfectly free from all pain, happy and thankful, saying she could scarcely believe it was all

over, so unlike was it to what she used to endure. Her recovery was the most rapid she ever made.

This case affords some points for remark: first, we observe the beneficial effects of ergot of rye in inducing uterine action in a case rendered tedious by inertness of that organ, and thus bringing the patient into a condition favourable for the use of chloroform. It was quite manifest at the time I gave the ergot that the uterus was not disposed to efficient contraction, and that many hours would in all probability elapse before healthy action would commence. By the influence of this drug, a long night of fruitless labour was avoided, and the patient was speedily relieved from suffering. Secondly, a remarkable feature in this case is the immunity from headach subsequently to delivery. This I think must be attributed to the soothing effect of the chloroform on the nervous system, acting as a sedative, and calming the excitement which formerly used to be so distressing.

CASE II.—Mrs. F., pregnant for the first time. This lady was most anxious to use chloroform in her approaching labour, and I promised it to her if nothing occurred to cause me to refrain from its employment. When the pains commenced they were very slow and weak, and continued so for twenty hours, at the expiration of which time the os uteri was dilated to the size of a half-crown piece. The pelvis was roomy and the soft parts relaxed. She was most importunate to begin the inhalation; but, the pains not being sufficiently strong to warrant its administration, I gave the ergot of rye, which quickened uterine action, and in twenty minutes labour was well established. I then commenced the use of chloroform, under the influence of which she was kept for two hours, when she was delivered of a living boy.

Insensibility was never induced in this lady, she was conscious during the whole time, and frequently held the handkerchief herself during the pains, soliciting more chloroform,

and expressing the greatest relief and comfort from its use. One ounce of chloroform was consumed in this case.

CASE III.—Mrs. C. In this case of first pregnancy, labour began by rupture of the membranes without pain. In six hours there was some faint uterine action, which continued to go on slowly for a long time. At length, at the end of eighteen hours, finding the os uteri soft and nearly dilated, I administered the usual dose of ergot of rye. This soon gave strength and effect to the pains, and I then began the use of the chloroform. It was continued for one hour and twenty minutes, when delivery of a living girl was accomplished, after a labour of twenty-one hours' duration. During the whole period of the inhalation this patient was not insensible, but enjoyed the happiness of being conscious of the uterine action, without feeling its pain.

CASE IV.—Mrs. P., second pregnancy. On the occurrence of labour, the pains assumed a well-marked, steady character, and continued so for four hours, at which time the os uteri was nearly dilated, and the vagina cool and moist. Having expressed a desire to use inhalation, she was now permitted to commence, and in a short time the labour pains were suspended. This was followed by sleep, which was most sound for one hour. On awaking from this condition, the pains did not recommence so I determined upon giving her a dose of ergot of rye. She got a drachm in the usual way, which soon produced a marked change in the pains; they became more frequent and increased in strength, and when well established the chloroform was resumed.

There was now no interruption to the pains; the labour progressed most satisfactorily, and at the end of an hour from the recommencement of the inhalation the delivery was happily accomplished.

In this case the influence of the chloroform in suspending uterine action was most clearly shown; but when the contractions were induced by the artificial assistance of the ergot it

seemed to have no power to arrest them. This is a point of great value, for it shows the importance of combining these two valuable and powerful agents. In cases such as I have related, by causing the action of the ergot to precede that of the chloroform, we secure the patient against a suspension of her labour.

CASE V.—Mrs. A., sixth pregnancy. A severe attack of uterine hemorrhage had attended this lady's previous confinement, two years before her present labour. Being anxious to prevent a similar event, I gave her a dose of ergot, when she was about seven hours in labour, and the os uteri and soft parts fully dilated. In twenty minutes the pains were very severe, and the vapour of chloroform was now inhaled with avidity. From the first time of the inhalation the pains were materially relieved, and soon disappeared, leaving the patient free from suffering, but not insensible. At times she appeared to slumber for a moment, and then woke again, saying she had a pleasant dream. She said she was conscious of the efforts which would have been pains, but she felt none; the child was born in twenty minutes from the first inhalation, and the duration of the labour was eight hours. The quantity of chloroform used was four drachms.

CASE VI.—Mrs. P., second pregnancy. In this case there was considerable delay in the first stage of labour, owing to the head of the child presenting with the face to the pubis, and there being a very weak and inefficient amount of uterine action. After three hours had elapsed, and no evidence of increasing power being manifested, I administered a drachm of ergot in the usual manner. By its aid the uterus was stimulated to contraction, and the pains were rendered strong and efficacious. As soon as the labour was well established, she was permitted to commence the inhalation of chloroform. The labour progressed rapidly from this time, the head came down well through the pubis, and in half an hour from the first use of the vapour the child was safely delivered. This lady

remained conscious during the entire time of her labour. The inhalation seemed to exercise a very marked influence upon the condition of the soft parts, causing them to be relaxed rapidly and freely. The duration of labour in this case was five hours; the quantity of chloroform consumed was three drachms, and the time of its influence was only half an hour.

These cases will serve as a specimen of those that are met with in practice, where weak and slow power in the uterus produces a tedious labour, and where the patient, ill disposed to bear the pain attendant on even such a feeble uterine effort, is clamorous for the inhalation, so long looked for as the great source of relief from suffering. To proceed at once to the exhibition of chloroform in such cases, would certainly protract the labour to a great extent, and might also produce very unpleasant consequences. It has been said, that uterine hemorrhage has occurred more frequently in women who have inhaled chloroform, than is usual with those treated in the ordinary way; this does not coincide with my experience. However, it must strike any one conversant with such matters, that the uterus most likely to be relaxed after delivery is that in which the pains have been most infrequent and feeble. If chloroform alone be given in such a case, it would be very likely to increase the tendency to relaxation after delivery; but when its use is preceded by that of the ergot of rye, such danger is completely guarded against.

It will be seen in the above cases that in none of them were uterine pains suspended after the dose of ergot had been taken; the labour went on vigorously, notwithstanding the use of the anæsthetic agent; and in all of them delivery was accomplished with the most perfect safety to mother and child. Having thus, I trust, shown how chloroform may be employed in cases that at first appear to be quite unfit for it, let me again impress upon those who may employ these medicines the absolute necessity of making sure that the agents are pure and fit for use. In papers on the use of ergot of rye, published in

former volumes of this Journal, I have repeatedly expressed the opinion that when ergot fails to produce its proper effect it is owing to the use of an impure, spoiled, and therefore inert specimen. The ergot is a very delicate medicine, and is readily injured by either age or damp. It should never be kept more than twelve months, and it ought to be preserved in a perfectly dry situation. If good at first, and thus treated, it will not disappoint when brought into operation. The purity of chloroform is of the greatest importance, and this should be carefully looked to by the practitioner himself. He has now an easy method set before him, whereby he can test and purify the drug, and I feel confident that, if attention be paid to these important points, the approval of the profession will be given to the use of anæsthetics in midwifery, and a large amount of human suffering be thereby removed.

ART. II.—*Cases of Chronic Ulcer of the Stomach; with Observations.* By CATHCART LEES, M.B., Vice-President of the College of Physicians; Physician to the Meath Hospital; &c.

HAVING met with some interesting cases of chronic ulcer of the stomach, within the last few years, I think it may be useful to place them on record, along with such observations on their diagnosis and treatment as suggested themselves to my mind at the time of their occurrence. I do this the more especially as I have frequently observed that the study of diseases of the stomach does not in general meet with the attention it ought. Students are too much in the habit of attributing all disorders of the stomach either to cancer or dyspepsia; and yet, in the whole range of pathology, there is no subject more worthy of their observation, particularly as regards a correct diagnosis, on which the comfort and happiness, often the life of the patient may depend. There is no organ in the study of the affections of which we are so apt to be misled by the

symptoms, mere functional derangement being often manifested by the most severe pain and vomiting, while the most serious and fatal diseases may progress to ulceration and even perforation without any premonitory symptoms to direct our attention to the part. This makes the study of its diseases, as derived from symptoms, difficult and unsatisfactory. Our means of ascertaining its condition by physical examination are also very defective, unless there be a palpable tumour; and even when we can detect a tumour in the region of the stomach, it is often difficult to determine its locality with precision. The stomach cannot be explored by auscultation with the satisfactory results that we derive from an examination of the lungs or heart; we cannot trace its distinct outline, as in the case of the liver or spleen; and its secretions are not discharged separately and unmixed, like those of the kidney. In fact, in most cases, we are obliged to infer the nature of its diseases from the functional disturbance they occasion; but every practical physician constantly meets with cases showing from what various causes similar functional derangements ensue: thus, irritation of the brain, kidney, or uterus, gall-stones and obstruction of the bowels will cause vomiting more frequent and distressing than actual organic disease of the stomach itself; while, on the other hand, not one of these symptoms may be present, though ulceration is at the time destroying its coats and proceeding to perforation.

Although it is only within the last few years, comparatively speaking, that this disease has met with the attention it deserves,—Cruveilhier in France, and Baillie and Abercrombie in Great Britain having described its peculiarities and appearance,—yet the slightest acquaintance with our periodical literature shows that it is a disease of very frequent occurrence; and in the records of the Dublin Pathological Society we find that many examples of this lesion have been exhibited. I intend, however, to confine my observations chiefly to those examples which have occurred in my own practice, occasion-

ally referring to others that have been published; and I shall first record those cases in which fatal perforation took place, and subsequently those in which I have met with ulceration in the stomach, though no perforation occurred. I do not intend at present to treat of ulcerations resulting from cancerous or tubercular diseases, or those caused by the action of corrosive poisons on the stomach, but to describe that peculiar form of ulceration termed by Cruveilhier the simple chronic ulcer of the stomach, and more recently, by Rokitansky, the "perforating gastric ulcer," from its prevailing tendency to perforate the parietes of the stomach.

CASE I.—Mary Freer, a delicate-looking woman, a servant, aged 48, married, and has had children (the last fourteen years ago), was admitted into the Meath Hospital, April 25, 1845, complaining of pain of the stomach, to which she had been occasionally subject for some months previously. She came to the hospital in a car, and was soon after attacked with a severe return of the pain in the stomach. The pain was relieved by *lying on the abdomen*, in which position I found her about two hours after her admission; she was then very pale, and perspiring; complained of severe pain in the epigastric region, not increased but rather relieved by pressure; the muscles of the abdomen were very rigid, spasmodically contracted; there was not any tendency to vomit; her tongue clean; pulse small, 140; she suffered greatly from wind, which she eructated with much relief to her sufferings. I ordered her to get the warm carminative mixture of the hospital, with the usual applications for flatulent colic. The first two doses gave her great relief from the distention and pain, which appeared to be caused by the wind; but as it still continued, she was given a dose of castor oil and turpentine, immediately after which the pain spread all over the abdomen; she then fell into a state of collapse, and died in twenty-six hours after the first seizure.

On examination ten hours after death, the abdomen was

tense and distended with gas. On opening the peritoneum, a large quantity of milky-looking serum, with flakes of lymph and oil floating in it, was perceived; the liver was very pale, covered with lymph, and adherent to the stomach; on separating them, a circular ulcer the size of a sixpence, situated midway on the anterior surface of the lesser curvature of the stomach, was to be seen; the edges of it appeared quite rounded, smooth, and thinned. On the inside of the stomach there was some thickening of tissues on one side of the ulcer, but no morbid deposit; the mucous membrane was removed to a much greater extent than the external opening indicated, but appeared quite free from disease in every other part.

This case, which was the first that I had met with, rather surprised me, for the character and situation of the pain, similar to what she had so repeatedly suffered from: the constant eructation of wind, which gave her great relief: the position she assumed, viz., lying on her stomach, pressing firmly against the bed: the spasmodic contraction of the abdominal muscles: and the fact of the pain not being increased by pressure on the abdomen,—were all circumstances indicative of its being merely a severe case of flatulent colic. The relief afforded by the carminative medicine seemed also to confirm this diagnosis, until the sudden aggravation of the symptoms, and the super-vention of collapse, discovered the true nature of the case. The first attack of severe pain which came on after her admission to the hospital, was caused, I suppose, by rupture of the adhesions between the ulcer of the stomach and the surface of the liver, probably owing to the motion of the car. This teaches us how cautious we ought to be of exposing persons whom we suspect to be suffering from this form of disease to any uneasy or violent motion, as any effort or exertion may rupture adhesions if they have formed, and, as in this case, cause sudden and fatal peritonitis. A remarkable instance of this occurred to a patient of Dr. Law's, and was

described by him at a meeting^(a) of the Dublin Pathological Society. The situation of the ulcer on the anterior surface of the stomach, and its position in contact with the under surface of the liver, may account for the fact of pressure relieving the pain, and also explain why relief was afforded by the carminative medicines; as when pressure was made on the epigastrium, it kept the perforation in close contact with the liver, and thus, forming a temporary support, not only prevented any communication between the stomach and cavity of the peritoneum, but allowed the carminatives to act, as they would have done on a sound stomach.

CASE II.—I was sent for on Monday evening, December 4, to see a servant maid, aged 19, who had been taken suddenly ill about an hour previously. I found her just recovering from a state of collapse; her face was deadly pale, covered with cold perspiration, and expressive of great anxiety; she kept both her hands pressed firmly on the epigastrium, where she complained of severe burning pain; she made frequent efforts to vomit; and her extremities were cold. On trying to remove her hands she cried piteously, saying, "I shall die if you take away my hands." On examining the abdomen, the parietes felt tense and knotty, as if the muscles were spasmodically contracted; she kept her knees drawn up, and the least touch or motion caused her to scream. Her pulse was small and quick. I was told she had eaten a good dinner of meat and potatoes at two o'clock on that day; she took her tea at seven, and immediately after complained of a stinging pain in her stomach, but walked up from the kitchen to the nursery at the top of a lofty house, and immediately after she was attacked with violent pain in the stomach, uttered a piercing scream, grasped a woman who was sitting beside her, and fainted; on recovering from the faint, she vomited up her dinner, mixed with a dark-coloured substance, which, however,

(a) Dublin Quarterly Journal of Medical Science, New Series, vol. i. p. 242.

was thrown out previously to my arrival. On carefully considering all these circumstances, I came to the conclusion, that it was a case of perforation of the stomach, and therefore directed that she should be kept perfectly quiet, not allowed any drink, and to have a grain of opium every hour. The next morning she had completely recovered from the state of collapse, and presented the usual symptoms of a person labouring under severe idiopathic peritonitis; her tongue was dry, pulse small and quick, skin hot, abdomen tympanitic; the attempts to vomit still continuing; urine scanty, high-coloured, and turbid. She lay on her right side, with her legs drawn up; and her breathing was hurried, short, and thoracic. Sir Philip Crampton now saw her with me, and it was resolved to apply a few leeches and combine mercury with the opium. All pain and anxiety soon subsided, she enjoyed a state of comparative ease, and on the fourth day appeared to be doing very well; her pulse which had ranged from 120 to 140, now fell to 92; and she expressed a conviction that she should recover, although previously certain that she should die.

It was now agreed to suspend the use of opium for a time, as she appeared to be slightly narcotized, and as her bowels had not been opened since the attack. She was at this time, left alone for a few moments, when, feeling a desire to evacuate the bowels, she got up to the night chair, and passed a quantity of a dark grumous substance. She then returned to bed, but was immediately attacked with violent pain in the abdomen; the efforts to vomit returned, the pulse increased in frequency, and, notwithstanding the most assiduous treatment, the disease progressed, and the patient died in great suffering on the fifth day afterwards,—nine days from the first attack.

Dr. Aquilla Smith and Dr. Frazer assisted me in the *post mortem* examination. On opening the abdomen we found evidence of intense and general peritonitis, the intestines greatly distended with gas, highly vascular, and covered with lymph; in several places deposits of purulent matter resem-

bling abscesses. The left lobe of the liver was adherent to the stomach, and on separating them a perforation the size of a sixpence came into view; it was round, situated on the anterior surface of the lesser curvature of the stomach, near the cardiac orifice; the edges were smooth and rounded; the mucous membrane removed to a greater extent than the serous; a clot of blood closed the aperture; the stomach, viewed from within, looked as if a piece had been punched out of it, but there was no morbid appearance round the ulcer, nor any trace of disease on the mucous membrane, except that it had a soft, pulpy aspect. No extravasation of blood, or of the contents of the stomach, had taken place into the cavity of the peritoneum. The uterus was remarkably small, but there was no disease observable in it or in any other of the viscera.

This case presents many points of interest, and especially with regard to the diagnosis: I at first felt undecided as to the real nature of the disease, whether it was mere hysterical colic or whether the symptoms were caused by perforation. I had attended this girl some time previously for constitutional derangement with suspension of the menstrual discharge; she then suffered from great debility, loss of appetite, cough, with a constant sensation of tightness and soreness along the sternum, yet she never complained of pain in the stomach, but said that she always felt stuffed up after any food, even the smallest quantity, and that she often thought that what she did take did not reach her stomach, but stopped at a point opposite the lower third of the sternum. She had a very pallid, waxy appearance, and a loud venous murmur could be heard in the jugular veins. Thus, in support of the view of this attack being hysterical, were the previous state of the constitution, the opinion of the ladies of the house who all felt assured that it was an hysterical attack, but, above all, the fact that *deep* and *firm* pressure over the epigastrium gave relief to the pain, for she kept both her own and the nurse's hands pressed strongly over this part, screaming when I attempted to remove them. But, on the

other hand, the previous state of her constitution might predispose her to ulceration of the stomach, as many are of opinion that the condition of the system which induces disordered menstruation also predisposes to this disease, and have hence termed it a menstrual ulcer; but the rapidity and violence of the attack, the fainting, and subsequent vomiting of the dark-coloured substance, and the state of the abdominal muscles, made me come to the conclusion that it was a case of perforation of the stomach, and the primary effect of the treatment, together with the *post mortem* examination, proves that I was correct in this view.

An interesting feature in her case also, was her complete recovery from the state of collapse, a circumstance I believe of very rare occurrence in perforation of the stomach; and another very important fact was the apparent remission of all the bad symptoms on the fourth day. This apparent remission, which at the time induced us to suspend the use of the opium, proves the necessity and wisdom of the advice given by Louis, in his work on gastro-enteritis, when, in speaking of peritonitis from perforation of the intestines, occurring in the course of typhoid fever, he mentions a case where the patient lived for seven days from the first evidence of peritonitis, and in which the symptoms, though very severe at first, subsided on the fourth day, and such apparent improvement took place, that doubts would have been entertained of the correctness of the diagnosis if the first symptoms had not been so well marked. "In confirming," says Louis, "those diagnostic symptoms which we have established, this observation is of great importance as connected with prognosis, since it shows that when once the signs of perforation have occurred we must not depart from our diagnosis, even after an arrest of symptoms, and an apparent amelioration of even several days' standing."

Now though, in the case I have just reported, all the dangerous and fatal symptoms rapidly supervened on a temporary relaxation of the strict treatment we had hitherto observed, par-

ticularly with regard to keeping the patient perfectly quiet, yet the examination of the body afterwards showed that there was nothing to prevent recovery taking place, if sufficient time had been allowed for firm adhesions to have formed, as none of the contents of the stomach were effused into the peritoneum, and as the ulcer was situated on the anterior surface of the stomach, in close contact with the under surface of the liver,—a very favourable place for adhesions to form between them and thus prevent communication between the stomach and cavity of the peritoneum. Thus a recovery might have ensued, similar to that reported by Dr. Hughes in the fourth volume of the second series of Guy's Hospital Reports:—a young woman, a servant, was attacked suddenly with all the symptoms of perforation of the stomach, about four hours after her dinner, which merely consisted of gruel; she was seen very soon after the attack, was put under the opiate treatment, kept in the horizontal position till the twenty-first day, supported with injections of beef-tea and laudanum till the twentieth day, when a little rice and yolk of egg were given. She was discharged cured on the fifty-second day, and continued well for four months, when, having eaten a quantity of fruit, she was soon after attacked with symptoms of perforation, similar to those of the previous seizure, and died in nineteen hours. On examination of the body, the usual evidence of acute peritonitis was seen, with a quantity of gooseberries and cherries effused into the peritoneum among turbid fluid(*a*).

(*a*) There were three ulcerations in the stomach: one, which had perforated the viscus and caused the peritonitis, by allowing the contents of the stomach to escape; another in process of ulceration; and a well-marked cicatrix of a third, most probably of that which had caused such a fearful train of symptoms four months previously, and from which she had recovered. The fact of the cicatrix being found there is of importance, as Mr. Langston Parker, who has written a very valuable memoir on the subject, is of opinion that cicatrices of these ulcers have never been met with in females, and seems to consider there is some essential difference between these ulcers occurring in males and females.

Mr. John Hamilton, Surgeon to the Richmond Hospital, has also given me the particulars of a case which occurred in a young woman under his care, who had suffered for five years from gastrodynia, but appeared to be in perfect health, when, after taking a hearty meal of apples and porter, she was suddenly attacked with violent pain in the stomach, which extended rapidly over the abdomen, and she died in twenty-four hours. The contents of the stomach were found in the peritoneum, mixed with lymph and turbid fluid. A large ulcer was discovered on the anterior surface of the lesser curvature of the stomach, near the cardiac orifice; it had formed adhesions to the under surface of the liver, but had been ruptured by the over distention of the stomach.

The rapidity of these two cases, and their uncontrollable progress to a fatal termination, can be easily accounted for by the *post mortem* appearances, particularly the foreign substances found in the peritoneal cavity. They are, in my opinion, quite sufficient to explain what has appeared a difficulty to some writers on this subject, even to Louis himself, namely, "why the power of resisting the same causes of death is so variable in individuals, under apparently analogous circumstances?" The true explanation appears to me to be this, that the peritonitis is not caused so much by the mere perforation of the stomach or intestines, as by the escape of foreign substances into the peritoneal cavity. Thus, in my first case, symptoms set in violently and increased rapidly immediately after taking the oil and turpentine, which was found floating in the cavity of the peritoneum; while in my second case the length of time she survived, viz., 288 hours from the first attack, can be accounted for by the perforation not having taken place for some hours after dinner, and no solid foreign substances having passed into the cavity of the peritoneum, for we could not detect any on the examination. In Dr. Hughes' case, the first attack, from which the patient recovered, occurred four hours after her dinner, which consisted only of gruel; whereas the second

attack, which proved rapidly fatal, took place when her stomach was full, and the fatal peritonitis was caused by the presence of the solid fruit in the peritoneal cavity.

A careful consideration of the circumstances under which the symptoms of perforation occur will be of great use in forming our prognosis; as, if they occur immediately after a meal, the probability, indeed almost certainty, is that the resulting peritonitis will be rapidly fatal; but if the stomach has been empty when the perforation takes place, we need not despair of recovery, for morbid anatomy shows us that these perforations are constantly closed by adhesions to some of the neighbouring viscera, as the liver, pancreas, colon, &c. Dr. Stokes has seen patients recover after presenting all the symptoms of perforation of the ilium after enteritis, so that we need not despair in even the most formidable cases; but to insure success, our treatment must be decisive, and consist in the steadily continued and free use of opium, as has been advised by Drs. Graves and Stokes(*a*) in the low forms of peritonitis and in perforations of the intestines.

The rationale of the efficacy of opium in these cases has been explained by them to consist in "the preventing of effusion into the peritoneal cavity, by allaying the peristaltic action of the intestine, and thus gaining time for the effusion of lymph, and the formation of adhesions round the perforation." This, which appears to be the true *modus operandi* of opium in these cases, has not received the attention it merits. Thus Dr. Alison(*b*), in his practical remarks respecting the relative value of bleeding, calomel, and opium, in subduing peritonitis, maintained that "the mere pain of peritonitis often killed the patient by a sympathetic affection of the circulation; that whatever blunts the intensity of the sensations, and procures ease and sleep to the patient, will lessen the degree of that

(*a*) Graves' Clinical Medicine, by Neligan, vol. ii. p. 244; Dublin Hospital Reports, vol. v.

(*b*) History of Medicine.

sympathetic affection of the circulating system;" so that opium should always be combined with calomel and bleeding, and thus pain and inflammation be subdued *pari passu*.

The writer of the biographical sketch of Dr. Chambers, which appeared in the *Lancet* of May 25, 1850, does not approve of this method of treating the disease; and states, as a proof of Dr. Chambers' energetic practice, particularly in reference to peritonitis, "that he never left his patient to be destroyed by the *vis necatrix*, while waiting for the *vis medicatrix*." That in his (Dr. Chambers') opinion, the pain depended on the inflammation; and to give opium in quantity would be to put a mask between the physician and the disease, behind which the latter might destroy the patient unperceived. He preferred to deal with pathology openly, and not to remove the pain as a palliative measure, but rather by quelling the inflammation, which was the cause of the pain. But this writer seems to have forgotten that peritonitis may arise under different circumstances, requiring very different treatment; for when it is the result of perforation opium should be freely given, not as a palliative to mask the disease, but as a powerful and direct remedial agent.

I am indebted to my friend Dr. Mayne, physician to the South Dublin Union Workhouse, for the particulars of a very interesting case of ulcer of the duodenum, which I think may be placed in the same class with the ulcers I have described as occurring in the stomach. A delicate-looking woman, a servant, was admitted into the hospital under his care, May 12, 1850, suffering under great dyspnœa, short cough, with scanty frothy expectoration, and orthopnœa; her countenance was anxious; she sat up in bed, leaning on her elbows; and the slightest change of position induced an indescribable dread of suffocation. Her aspect was that of a person in the advanced stage of pericarditis, but the state of the pulse, which was quiet, seemed opposed to the idea that she was suffering under any acute inflammation. She stated that her illness commenced suddenly on the

previous evening with a sensation of suffocation and a feeling of uneasiness in the epigastrium, but she did not suffer from either nausea or vomiting, nor had she previously any affection of her stomach. She complained on admission of some uneasiness in the epigastrium, and there was slight tenderness over this part, but the abdomen generally was free from pain and tenderness. The aspect of the woman, and the dyspnœa, induced the belief that her disease was thoracic, and accordingly her chest was examined most carefully, with the confident expectation of detecting physical signs of either pulmonary or cardiac disease, but no morbid sound could be heard. The epigastric tenderness, the orthopnœa, and sense of suffocation, seemed to indicate the pericardium as the source of the distress, and accordingly it was considered to be a case of incipient pericarditis, not as yet sufficiently advanced for the development of the characteristic physical signs. She continued in the same state, notwithstanding active treatment, till the 17th, that is for five days, when at 7 P. M. she was suddenly seized with severe pain in the epigastrium, and frequent retchings, but without any vomiting. The pain spread over the abdomen, which now became rapidly tympanitic, and exquisitely tender on pressure. Dr. Mayne and Mr. Shannon, who previously, notwithstanding repeated and careful examination, were unable to arrive at any satisfactory diagnosis, at once recognised in these new symptoms positive indications of perforation of some part of the intestinal tube. The treatment by large doses of opium was immediately employed, but without the smallest effect in controlling the disease; her countenance became sunken; hiccough set in; the extremities became cold; she sank rapidly, and died at 3 P. M. on the 18th, twenty hours after the sudden attack of severe pain in the abdomen.

Dr. Mayne and Mr. Shannon, who had informed me of the case, and of their diagnosis, kindly invited me to attend at the examination of the body. On laying open the abdomen, the usual appearances of acute general peritonitis presented them-

selves, with a quantity of very yellowish-brown fluid in the peritoneal cavity. The liver appeared rather pale, similar to what we often meet with in scrofulous subjects, and was connected to the stomach and intestines by lymph. On lifting up the right lobe of the liver, we saw a ragged oval opening, with dark edges, the size of a sixpence, on the anterior surface of the superior transverse portion of the duodenum, near its junction with the pylorus. Through this opening the communication had taken place between the duodenum and general cavity of the peritoneum. On separating the stomach and duodenum from their attachments, and cutting them open, we found the mucous membrane of the stomach vascular and corrugated, but there was no appearance of ulceration ; while the inner surface of the superior transverse portion of the duodenum presented on its posterior wall a large elongated ulcer, which had quite destroyed the mucous membrane, and on its anterior wall was another ulcer, which had perforated the intestine, as above described.

The lungs were congested, but there were no evidences of disease at all sufficient to account for the extreme difficulty of breathing, and there were no traces of disease in either the heart or pericardium ; so that Dr. Mayne considered,—and I think he was justified in his opinion,—that the disturbance of the respiratory function was purely sympathetic. A remarkable feature in this case also was, that she had never (as far as we could learn, and Dr. Mayne instituted a careful inquiry on the point) suffered from any marked stomach or abdominal symptoms ; and though for a considerable period of time she had been an inmate of the institution, yet she had never applied for medical relief till the present attack, about seven days before her death. This case is particularly interesting, from its bearing on the question of the morbid sympathies of the stomach with other internal organs. We know how frequently the organs of respiration are affected in cases of acute inflammatory affections of the intestines and peritoneum ; the

relation of the diaphragm to the two cavities, and the nervous connexion by the branches of the par vagum, will sufficiently account for this. In children, particularly, hurried and puerile respiration is often the most marked symptom of affections of the head or of the intestines, and in these cases the junior practitioner, if not forewarned, is likely to be led into error, the severe and prominent pulmonary symptoms masking the true seat of the disease. Dr. Langston Parker has justly remarked(*a*): "If no other use were ever to be made of the stethoscope, its value in ascertaining the state of the lung, when the respiration is hurried or quickened from causes not affecting the integrity of the lung or its membranes, but depending upon other causes, would entitle it to be ranked amongst our most important means of diagnosis." In this case of Dr. Mayne's, the value of the stethoscope as a negative aid in diagnosis was very striking; for though all the symptoms were referrible (and that in the most marked manner) to some affection of the heart or lungs, yet the absence of physical signs of disease in these organs, put Dr. Mayne and Mr. Shannon on their guard, and caused them to give a very cautious prognosis at an early period of the case. The great obscurity and insidiousness of the symptoms can be accounted for by the ulcer being situated in the duodenum, as in this position it was not exposed to the direct contact of the food previously to digestion, to the sudden alterations of temperature of substances taken into the stomach, or to the action of the gastric juice; nor did it undergo the constant change of position, to which an ulcer in the stomach is always subjected, from the motion which goes on during digestion; so that ulcers situated in the duodenum may continue for a long time, and even proceed to perforation, without exciting any suspicion of such a fearful disease, till the fatal moment arrives. This occurred in the case of Mr. Somes, the Member for Dartmouth, who was suddenly attacked in

(*a*) *The Stomach and its Morbid States*, p. 25

the House of Commons with severe pain in the abdomen ; rapid collapse followed, and he died in twenty-four hours with all the symptoms of peritonitis from perforation. On examination of the body there was discovered a perforating ulcer of the duodenum, with evidence of acute peritonitis(*a*).

But even chronic ulcer of the stomach may last for a long time, and not disclose itself by any prominent symptom till fatal perforation takes place. I have exhibited at the Pathological Society two specimens of this form of the disease ; one of them occurred in a very talented individual, who had gained a scholarship in Trinity College, but who died insane at the age of 36. He had been under my care for some months previously to his death, suffering from flatulence ; his appetite was very great, but he gradually became emaciated, and died from exhaustion, though taking plenty of nourishment up to the last day of his life. I found a large chronic ulcer in the lesser curvature of the stomach, near the pylorus, which had quite destroyed the mucous and muscular coats, and laid bare the peritoneum. The other case occurred in the practice of Dr. Shannon, who kindly permitted me to exhibit it to the Society. A man aged 60 was under his care for hydrocele, when he was suddenly seized with severe pain in the belly, followed by rapid collapse, and death in nine hours from the first seizure. He had never made any complaint referrible to the stomach, yet on examination a large chronic ulcer was found, which had perforated its coats, and caused general acute peritonitis.

Professor Smith exhibited to the Pathological Society a specimen and cast of a chronic ulcer of the stomach, that had perforated that organ, and was plugged up by the pancreas, which formed the floor of the ulcer. The patient, a female, had neither vomiting, thirst, epigastric tenderness, nor any symptom of stomach disease, but was much emaciated(*b*).

(*a*) *Lancet*, July 18, 1846.

(*b*) *Dublin Quarterly Journal of Medical Science*, New Series, vol. i. p. 234.

In all these cases the only indication of disease of the stomach was the extreme emaciation. Even when perforation has occurred, the diagnosis is sometimes exceedingly difficult, as was well illustrated in a case exhibited by Dr. Stokes at the Pathological Society, in which the perforation was only ascertained after death, though he was "under observation for fourteen days, suffering from symptoms referrible to the diaphragm, and to the left side, but with intermissions, during which his appetite was good, and his pulse feeble. On examination after death, a chronic ulcer was found in the lesser curvature of the stomach, which had perforated its coats, and opened into an abnormal sac of the peritoneum"(a). Dr. Stokes states candidly, that the perforation was not diagnosed during life; "the symptoms, the intermissions, and the absence of general peritonitis, explained the cause of the deficient diagnosis."

From a careful consideration of the cases which have come within my own observation, and those recorded by others, we must confess, that the positive diagnosis of this disease, particularly in the early stages, is still very deficient. Dr. Edwards Crisp, who has written a short, but excellent paper(b) on this subject, states that "when there is violent pain in the epigastric region after eating, flatulence, pyrosis, and pain in the left side, especially when accompanied by a chlorotic condition of system, the presence of ulceration may be suspected."

Dr. Abercrombie remarks, that "this affection may run its course, almost to the last period, without vomiting, and with scarcely any symptom, except the uneasiness which is produced by eating, and which subsides entirely a few hours after a meal." And Dr. Seymour of London, who, from his great experience as physician to St. George's Hospital for eighteen years, and also from his extensive private practice, has had much opportunity of meeting with this form of disease, writes, that "the chronic ulcer of the stomach is not to be distinguished

(a) Dublin Quarterly Journal of Medical Science, New Series, vol. ii. p. 504.

(b) Lancet, August 5, 1843.

by any known signs, unless vomiting of blood, which has followed long-continued symptoms of pain and distress in the stomach, has taken place"(a).

The character of the pain may serve as some guide to us, for it generally comes on after eating even the mildest kinds of food; in fact, the patient will often tell you, "If I could live without food I should feel quite well." Solid meat causes most distress, but the pain is not necessarily attended with the acidity which is so remarkable in many cases of mere functional disease. We cannot distinguish any hardness or fulness in the epigastric region, nor is there any redness of the tongue indicating any serious irritation going on in the stomach. In many cases the sufferers do not lose flesh, as in cancerous affections, except when the ulcer is very large, and by its size interferes with nutrition, particularly in those cases where the pancreas forms the floor of the ulcer.

Dr. Osborne(b) of this city is of opinion, "that the diagnosis of the situation of the ulcer depends on the effect which the patient's position has in either producing or relieving this pain;" and that there is a remission of pain as long as the patient is in the erect posture, as then the fluids of the stomach are not in contact with the ulcer. I am not competent to speak of this means of diagnosis in an early stage of the disease; but after perforation has occurred this rule certainly does not hold good, as in my first case I found the patient lying on her stomach; and in the case reported by Dr. Hughes, the patient on both occasions, after the symptoms of perforation had occurred, was found lying on her stomach, though in both these cases an ulcer was found on the anterior surface of the organ.

The symptoms of ulcer in the stomach are often very slight, merely those of ordinary dyspepsia; but they may be very obscure, or even entirely latent, so as not to cause any uneasiness

(a) On severe Diseases of the Human Body, vol. i. p. 17.

(b) Dublin Journal of Medical Science, First Series, vol. xxvii. p. 357.

to either the patient or his friends, until an attack of profuse hematemesis, or the sudden and fearful symptoms of perforation, reveal the nature of the case. When this lesion occurs, the individual is generally attacked with sudden severe pain in the epigastrium, not preceded by rigors. The pain spreads rapidly over the abdomen, and when it has occurred soon after a meal, it has led to the suspicion of poisoning; but as a medico-legal fact, it is important to remember, that those cases in which sudden perforation has occurred have seldom been preceded by any severe precursory symptom. The pain is generally excruciating; there is often vomiting; death mostly takes place in from eighteen to thirty-six hours; and on examining the body after death, we find evidence of severe acute peritonitis,—effusion of serous fluid, often of a milky, whey-like appearance, and the intestines and viscera glued together with coagulable lymph, in some parts forming pouches containing purulent fluid, like abscesses. In some cases the contents of the stomach are found extravasated into the peritoneal cavity. At first there is nothing apparent to account for all this mischief; but on separating the liver from the stomach, or turning this viscus over on its axis, we then discover an opening of an oval or rounded form, generally from half an inch to an inch in diameter, situated in or near the lesser curvature, between the cardia and pylorus, and more frequently on the posterior than on the anterior surface. The peritoneal opening is generally small, circular, and thinned off to a sharp edge, so that there is no appearance of laceration or ulceration; it appears as if the piece had been punched out. On looking at the stomach from within, the coats appear as if gradually thinned off; the mucous coat being removed to a greater extent than the muscular, and this again than the peritoneal coat. The border of the aperture is generally quite smooth, as if the coats of the stomach in this part had been gradually thinned off by a slow process of absorption, otherwise we should expect to find the margin fringed and irregular. The condition of the

coats of the stomach round the circumference of the ulcer varies, in some cases being thickened, hard, and even cartilaginous. This appearance, when present, is a strong indication that the ulceration is of a chronic character. In other cases there is no thickening of the coats of the stomach, and the border of the ulcer may be very slightly or not at all raised above the surface of the surrounding membrane. The mucous membrane is sometimes pale, or sometimes exhibits patches of inflammatory or congestive redness, or extravasations of blood in distinct patches; sometimes the margin of the aperture is slightly reddened, while all the rest of the stomach appears to be healthy. The size of the ulcer varies from that of a four-pence to that of a half-crown, but is sometimes much larger, particularly in those cases of apparently very long standing, when adhesions have formed to neighbouring organs, as to the liver or pancreas, of which Cruveilhier gives a very good representation. Their shape is generally circular; but as they extend they assume an elliptical form, and often become very irregular. If they extend in the transverse diameter of the stomach, they cause alteration in its shape, their cicatrization being often followed by considerable deformities of the viscus, or by annular strictures. Rokitansky states that this species of ulcer is in no way connected with either gastritis or cancer, and I am of the same opinion, although the thickness and hardness which are sometimes met with surrounding these ulcers has induced some writers to consider them as being of a cancerous nature; but the muscular fibres being commonly traceable unaltered to the very margin of the ulcer, there being no morbid deposition, and no secondary infection of the system, as in the case of cancer,—all militate against this opinion, which is further refuted by the consideration of the period of life at which they generally occur, and the fact that they are curable, as they are often found cicatrized: of this the case of the illustrious Beclard is a well-known example. Some writers have supposed these ulcers to be

syphilitic, from their peculiar appearance; but they are neither cancerous nor syphilitic, nor the results of chronic gastritis. I consider this ulcer of the stomach to be a peculiar specific form of disease, essentially chronic in its nature, of the cause, the origin, and the *early* progress of which we know but little. It appears to attack most frequently young unmarried females, from sixteen to twenty-three years of age, particularly servants and dressmakers; but it is not exclusively confined to females, or to any particular period of life.

Andral states, that women who have been recently delivered, and persons who have undergone severe operations, are likewise subject to it. There have also been several specimens of this form of ulcer exhibited at the Dublin Pathological Society, which occurred in both males and females, varying in age from 17 to 60, so that it is not confined to either sex or any particular age.

With regard to its terminations, the most frequent mode in which an ulcer of the stomach terminates, particularly when it attacks young females, is by perforation of all the coats, thus allowing the contents of the stomach to pass freely into the peritoneal cavity, and induce fatal peritonitis, as occurred in most of the cases I have recorded. This result, however, may be prevented by adhesions having taken place between the peritoneal surface of the ulcer and some of the adjacent viscera.

Secondly, it may terminate by a profuse hematemesis, which sometimes causes immediate death, but more frequently after repeated attacks; the ulcer having in its progress opened into the trunk of either the coronary or splenic artery, and thus caused exhausting and fatal hemorrhage.

Thirdly, it may wear out the patient by exhaustion from dyspepsia and harassing cardialgia, impairing the powers of digestion, interfering with nutrition, and producing gradual emaciation and death.

Fourthly, the ulcer may cicatrize and the patient recover, either temporarily, as in the case recorded by Dr. Hughes, or

permanently, as occurred in the case of Beclard. But in these latter cases we have two evils to dread: first, the recurrence of the disease from any exciting causes; secondly, the rupture of the cicatrix by distention of the stomach with solid food, liquids, or flatus, or in making any exertion, so that a patient who has once suffered from this disease is never to be pronounced free from danger.

As to treatment: in the early periods, we should, above all things, be careful not to allow the stomach to become distended by any quantity of solid food or liquid; in fact patients with this disease should never make a regular meal, but take small quantities of mild light food, chiefly farinaceous, with milk and yolk of eggs. Once the symptoms of perforation have occurred our treatment must be very decided;—perfect rest in the horizontal position, no food or drink allowed for some days, except a teaspoonful of water occasionally; solid opium to be given by the mouth, in doses sufficiently large and frequently repeated to keep the system under its influence, so that by its sedative action on the gastro-intestinal organs, time may be afforded for adhesions to form, and effusion into the peritoneal cavity thus prevented. If administered in the form of enema it might be safer, and less likely to derange the action of the stomach; and if given in this way might even act better in controlling the peristaltic action of the stomach and intestines, for, in the first instance, we prescribe opium not so much with the view of curing peritonitis as of anticipating and preventing the escape of the contents of the stomach, from which the peritonitis in such cases arises. By pursuing this plan of treatment, at the same time confining the patient strictly to the horizontal position, so as to prevent any exertion or motion, and supporting the system by injections of strong beef-tea, for the first ten or twelve days, we shall have a reasonable chance of recovery, provided the perforation has not occurred soon after a meal. For as patients have survived after presenting all the symptoms of peritonitis from perforation of the intestines

occurring even in the course of severe diseases, in which the constitution generally has suffered, and where morbid anatomy teaches us that several ulcers are usually present, we may, with much greater reason, hope that recovery should take place when, as is usually the case in perforation from ulcer of the stomach, we have only one ulcer to deal with, when the constitution has not suffered from the debilitating effects of any previous disease, and when, if the stomach has been empty at the time of the perforation, and can be kept so till adhesions have formed with some of the viscera, the perforation may be plugged up, cicatrization take place, and the processes of digestion and nutrition proceed as before.

ART. III.—*On the Constitutional Origin of Erysipelas, and its Treatment; illustrated by Cases.* By ALBERT J. WALSH, M. D., F. R. C. S. I., one of the Medical Officers of St. Peter's Dispensary.

IN the following remarks I wish to direct attention briefly to a few points connected with the causation and treatment of erysipelas. The contagious nature of the disease, now so generally admitted, the fact of its being at times in a very marked degree epidemic, the manner in which it so frequently complicates other affections, as well as the question of treatment, which even yet does not appear to be definitely settled, all render the subject worthy of careful investigation. Within the last seven years a considerable number of cases of this disease have come under my notice, and as some of them presented features of interest, I have thought it well to lay them before the profession, with some general remarks on the subject.

To enter at any length into a consideration of this disease would exceed my present limits; I shall therefore confine my observations to those forms of the affection which have come more immediately under my own notice, and which may be

classed under the heads of traumatic and idiopathic. In the first instance I will give the details of a few cases, each of which presented some points of interest; and, in conclusion, make such remarks as appear to me to be called for.

CASE I.—*Erysipelas of the Head and Face*.—I saw for the first time, on the 29th of January, 1850, a gentleman aged 50: his nose, the right side of his face, and part of the left, were greatly swollen, and of a dark red colour; the skin was hot and dry, the tongue covered with yellow fur, and the pulse 130; he complained of severe pain in the head, and had been raving all night; and there were great irritability and restlessness. He had been suffering much anxiety of mind, and was just recovering from influenza, followed by a severe neuralgic affection in the left side of the face. On Sunday, 27th January, he had a severe rigor, headach, and vomiting; and on Monday morning the right side of the face was a little swelled. I ordered him to take one grain of tartar emetic in a quart of whey in the twenty-four hours.

Second day. After the second dose of the medicine he was vomited,—what he threw off was dark green bile; and after the fifth dose he was well purged. The erysipelas has extended, but not with the same rapidity; a number of small vesicles came out during the night, and are filled with a light-coloured serum; tongue clean; pulse 96, softer; raved a little, was very restless, having had but about an hour's sleep during the night. The tartar emetic was ordered to be continued in barley-water.

Third day. The medicine has had no visible effect; the erysipelas is spreading very slowly on the left side, not on the right; he can now open the right eye; the left ear is very much swollen, but not painful; tongue cleaning; pulse 78; skin soft and cool; bowels freed twice copiously; slept four hours during the night, and raved very little. The tartar emetic to be continued.

Fourth day. The erysipelas is still extending on the left side and over the back of the neck; bowels not freed since;

urine not so high coloured; pulse 78, fuller; skin cool and moist; got six hours' sleep; all restlessness gone. The tartar emetic to be still continued.

Fifth day. The swelling of the face is much reduced, the skin shrivelling; he had a profuse perspiration during the night; pulse 78, small; bowels have not been freed; tongue not cleaning. He was ordered to take five grains of blue pill immediately; and in six hours after the following draught:—powdered rhubarb, twelve grains; calcined magnesia, ten grains; tincture of rhubarb, two drachms; peppermint water, ten drachms: to be repeated if necessary; the tartar emetic to be also continued.

Sixth day. The bowels were freed three times after the second draught; the erysipelalous inflammation is in the same state; pulse 78, weak; tongue cleaning. Tartar emetic to be omitted; to take two table-spoonfuls of the following mixture three times a day:—sulphate of quina, eight grains; dilute sulphuric acid, half a drachm; water, eight ounces: mix.

Seventh day. The swelling much decreased; slept well last night; tongue cleaning; bowels regular; urine not so high coloured; pulse 76, stronger. The mixture to be continued; to have beef-tea.

Eighth day. Had a very good night; there is a slight swelling on the forehead, but it has declined all over the face and head; skin coming off in scales; tongue cleaning; bowels free; pulse 72, fuller.

Tenth day. Has been gradually improving; the swelling almost gone; the urine depositing a thick sediment; pulse 72. The mixture to be continued; to have beef-tea and wine.

Twelfth day. The skin is coming off the head and face; the tongue clean; bowels regular; pulse 72; slept well; to get up to-morrow.

CASE II.—*Erysipelas of Head and Face after severe Influenza*.—I saw Mrs. —, aged 68, for the first time, on the 27th of February, 1850. Her face and head were greatly swollen, of

a deep red colour, and both eyes closed; there was a number of small vesicles, filled with straw-coloured serum, on the cheeks; she had constant raving and restlessness; great heat of skin; tongue covered with yellow fur; bowels confined; urine scanty; thirst; the pulse was so irregular that I could not count it, but it was very frequent. She had just recovered from a long and severe attack of influenza; on the 25th she got into a violent passion, after which she was seized with shivering and sickness of stomach, and the erysipelas appeared on the next morning; she has been suffering from disease of the heart for fifteen years. One grain of tartar emetic dissolved in a quart of barley-water was ordered to be taken in the twenty-four hours.

Second day. The medicine only vomited her once, when she threw off a quantity of yellow bile; her bowels were five times moved; tongue not so yellow; skin cooler; pulse irregular, as it always is, about 78; did not rave so much; can see a little with the right eye; erysipelas extending somewhat. The tartar emetic solution was ordered to be continued.

Third day. Face not so swollen; skin shrivelling; can open both eyes; tongue dry in centre, cleaning at the edges; pulse very irregular, about 78; did not rave so much; bowels affected three times; bilious matter passed. The tartar emetic to be continued.

Fourth day. The swelling still decreasing; no raving; slept much better; tongue cleaning, not so dry in the centre; bowels three times affected; bilious matter still passing; pulse 84, weaker. The tartar emetic to be continued, and to take a table-spoonful of the following mixture every fourth hour:—sulphate of quina, eight grains; dilute sulphuric acid, half a drachm; water, eight ounces: mix.

Fifth day. The swelling still more reduced; the skin shrivelled, and desquamation taking place; can open both eyes well; tongue clean and moist; bowels freed only once;

pulse 72, fuller, but very irregular. Tartar emetic to be omitted, quina mixture to be continued, and to have chicken broth.

Seventh day. The swelling has quite gone; skin desquamating; tongue clean and moist; pulse 72, irregular; bowels regular; appetite returning; convalescent.

CASE III.—*Erysipelas of the Head and Face, with Typhoid Symptoms*.—Miss —, aged 24, of a scrofulous diathesis, sent for me on the 14th November, 1846. Her head and face were greatly swollen, the latter of a dark purple colour; she was unable to open her eyes, from the great œdema of the lids; tongue covered with dark brown fur, and protruded with difficulty; constant raving; pulse 130, small and weak; bowels freed by medicine which she had taken; unable to sit up without assistance. On the 7th November she was seized with vomiting and pain in the head and face, after which the head began to swell, and she rapidly got worse. She was ordered to take two table-spoonfuls of the following mixture every third hour:—camphor mixture, five ounces; water of the acetate of ammonia, two ounces; carbonate of ammonia, one drachm; Hoffman's anodyne liquor, three drachms; syrup, five drachms: mix. One grain of tartar emetic to be dissolved in a quart of whey, to be drank in the twenty-four hours.

Second day. The medicine did not sicken her, but it acted on her bowels, and she discharged a quantity of bilious matter; got a little sleep, did not rave so much; pulse 100, fuller; can open her eyes a little; the erysipelas has extended to the neck. The stimulant mixture to be continued; the tartar emetic in barley-water to be repeated; to get some mutton broth.

Third day. Complains greatly of difficulty in swallowing; head and face greatly reduced in size; the erysipelas has extended down to the neck; pulse stronger; bowels regular; slept well, very little raving; tongue cleaning. The stimulant

mixture and tartar emetic to be repeated; mutton broth to be omitted; to have arrow-root and wine.

Fourth day. Raving has ceased; slept well; pulse stronger; swelling much reduced, but there is great fulness and hardness under the lower jaw, and it is very tender to the touch. The tartar emetic and stimulant mixture to be continued; a cataplasm to be applied to the lower jaw.

Fifth day. Desquamation commencing in the face; slept very well; pulse stronger, 78; bowels not free; swelling less, and not so hard or tender to the touch; tongue almost clean. Tartar emetic to be omitted; the stimulating mixture, arrow-root, and wine, to be continued. To have one table-spoonful of castor oil at night.

Seventh day. Bowels have been too much acted on by the oil, in consequence of which she is weaker; pulse 80, not so strong; swelling under the jaw less, and becoming more circumscribed; appetite bad. Two table-spoonfuls of the following mixture three times a day:—sulphate of quina, eight grains; dilute sulphuric acid, half a drachm; water, eight ounces: mix. Cataplasm to be continued.

Fourteenth day. The same treatment was continued up to this date, when the abscess under the jaw was opened; there was a great discharge of healthy pus, and from this period she made rapid progress, and was able to go out early in December.

CASE IV.—*Erysipelas of Head and Face*.—Mary Kinsela, aged 58, was attacked with erysipelas on the 19th of October, 1849; I first saw her on the 22nd. Her face was greatly swollen, of a dark red colour, and both eyes closed. She complains of the face and head being very sore all over; very bitter taste in her mouth; tongue furred; has a severe purging of bilious matter; pulse 96, small. She had been fretting much, and her bowels had been confined for some time previously to the 19th, when she was attacked with bowel complaint and severe shivering; that night the right eye and side of the face

commenced to swell, and continued to increase up to the time I saw her. One grain of tartar emetic was directed to be dissolved in a quart of barley-water; a wine-glassful of this to be taken every second hour.

Second day. The tartar emetic had no effect until the fifth dose, when it both purged and vomited her; the swelling is much less in the right side of the face, but the left side is a little more swollen; she can open her right eye a little; the bitter taste in the mouth still remains; the tartar emetic solution to be continued.

Third day. The medicine did not act on her stomach and bowels; the swelling of the face is not so great, and the redness is almost gone; pulse 80, small; tongue clean. The tartar emetic was omitted, and she was ordered an ounce of the following mixture three times daily:—sulphate of quina, eight grains; dilute sulphuric acid, half a drachm; water, eight ounces: mix.

Fourth day. The swelling much diminished; she can open both eyes; sleeps well; tongue clean; pulse 80, fuller; appetite returning; desquamation commencing; bowels regular.

Ninth day. The swelling all gone; the skin has come off in scales; tongue clean; pulse regular; convalescent.

CASE V.—*Erysipelas attacking the Penis of a Child, one Year and a half old*.—I saw Francis Owen, aged one year and a half, on the 2nd February, 1850; the penis was greatly swollen, of a bright red colour, and very painful, so that he would not suffer it to be touched; there was a slight discharge of matter from between the glans and prepuce; pulse very quick; skin hot; great restlessness; tongue covered with white fur. Two days before he had sickness of stomach, and great restlessness, after which the penis began to swell. His little brother, two years older, had a similar attack in Liverpool, which was treated by incisions. Half a grain of tartar emetic was dissolved in a quart of barley-water, and of this a wine-glassful was to be given every second hour.

Second day. The first dose both vomited and purged him, and what was thrown off the stomach was quite green; the penis not so swollen, nor so painful; the fever much less; pulse only 84; tongue cleaning. Tartar emetic to be continued.

Fourth day. The swelling is gone, except just at the prepuce, which is still slightly swollen; pulse regular; tongue clean; bowels free, and the discharge natural. Half an ounce of infusion of gentian to be taken three times a day.

Sixth day. The swelling quite gone; the penis natural size; the glans can be exposed, and is quite healthy. The child is otherwise quite well.

CASE VI.—*Erysipelas first attacking the Pharynx, suddenly disappearing from it, and seizing on the Nose and Face*.—I was sent for to see Elizabeth Maguire, aged 15, on the 10th May, 1848, and found her in the following state:—face flushed; skin hot and dry; tongue covered with thick yellow fur; severe headach; slight raving; sickness of stomach; great soreness of throat, which was of a deep red colour, extending over the entire pharynx. She had sickness of stomach and headach, with great chilliness, for the last two days. She was ordered to take at bed-time, jalap, ten grains, calomel, two grains, and Dover's powder, four grains, in a bolus, and to apply the liniment of ammonia to the throat externally.

Second day. Her nose is now greatly swollen, and of a deep red colour; the swelling extending over the forehead and both cheeks; there are a few vesicles on the nose; all redness and swelling of the throat gone. Tongue covered with yellow fur; bowels moved by bolus; headach and sickness of stomach continue; pulse quick. A grain of tartar emetic to be dissolved in a quart of barley-water; a wine-glassful to be taken every second hour.

Third day. The tartar emetic both vomited and purged her, after the first dose; the swelling of the nose is much reduced, and it is of a saffron hue. The swelling of the forehead

is almost gone, and the skin pale; tongue cleaning; skin moist; pulse not so quick. Solution of tartar emetic to be continued.

Fourth day. The medicine did not make her sick since, nor did it affect her bowels. The redness all gone; the swelling nearly so; tongue cleaning rapidly; bowels not free. Tartar emetic to be omitted, and the following draught to be taken immediately, viz.:—powdered rhubarb, twelve grains; carbonate of magnesia, ten grains; tincture of rhubarb, a drachm; peppermint water, an ounce: mix.

Sixth day. Her bowels were freed by the draught; all appearance of erysipelas is gone; tongue clean; appetite improving; there is a great discharge of matter from her nose. She was ordered to take a table-spoonful of the following mixture three times a day:—sulphate of quina, four grains; dilute sulphuric acid, half a drachm; water, six ounces.

Eighth day. The discharge from the nose has ceased; she is now quite recovered from the attack.

CASE VII.—*Erysipelas of Face and Head in a Child eighteen Months old*.—I was sent for to see Catherine Schoales, aged one year and a half, on Friday, 27th April, 1849. She was affected with great swelling of the forehead and right eye, extending to the left eye-lid. The skin was of a shining red colour, pitting on pressure; the right eye was closed; the tongue was covered with white fur, and the pulse was quick; the bowels had been freed by medicine. She had been uneasy and restless for a few days; and on the 26th her stomach was very sick, after which the swelling and redness made their appearance. She was ordered half a grain of tartar emetic in a quart of whey, to be taken within twenty-four hours.

Second day. The medicine made her very sick at first, and purged her. The swelling of eye-lid not so great, and the redness of forehead less; tongue cleaning at edges; she is not so hot, and she can eat a little to-day. Tartar emetic to be continued.

Third day. The swelling is gone from both eyes, and there is only a slight swelling on the forehead, with very little redness. The medicine had no effect. One table-spoonful of infusion of gentian was ordered to be taken three times a day.

Fourth day. The swelling and redness are completely gone; the skin is desquamating; and the child is quite well.

CASE VIII.—*Erysipelas of the Hand and Arm*.—I saw J. Murtha, aged 65, for the first time, on the 27th of November, 1848, and found him labouring under severe erysipelas of the right hand and arm, which were greatly swollen, of a deep red colour, and pitting on pressure; tongue covered with adhesive fur; pulse quick and full; skin hot and dry. He was attacked the day before with headach, shivering, and sickness of stomach. This is the third attack; he had one in his leg four years previously; and last year he had it in the same hand and arm which is now affected. It seemed to have been then caused by infection, his wife having had an attack of it in her head at that time. Ordered one grain of tartar emetic in a quart of whey, to be drank in cupfuls within the twenty-four hours.

Second day. The medicine made his stomach very sick, but did not affect his bowels. The swelling has extended very little further, and the hand and arm are not so swollen; bowels not freed; tongue a little cleaner. Ordered a draught of castor oil and tincture of rhubarb.

Third day. The swelling much reduced; bowels very little moved by medicine; says he is much better. Tartar emetic solution to be continued.

Fourth day. The swelling and redness still diminishing; tongue cleaning rapidly; bowels not freed; pulse nearly regular. Tartar emetic to be continued; to take three drachms of the compound powder of jalap at bed-time.

Sixth day. Swelling almost gone; slight redness; bowels have been well freed; tongue cleaner; says he is quite well, except some stiffness in his hand. Tartar emetic to be omitted;

to take an ounce three times a day of the following mixture:—sulphate of quina, eight grains; dilute sulphuric acid, one drachm; water, eight ounces.

Ninth day. The swelling and redness are gone, the skin coming off the hand; tongue clean; pulse regular; able to go to work.

CASE IX.—*Traumatic Erysipelas of the Leg*.—I was sent for to see John Byrne, aged 20, a carpenter, on the 3rd of January, 1849, on account of great swelling and redness of his left leg; it was twice as large as the right, and pitted on pressure; and he complained of a burning sensation in it: there was a wound a little below the knee. Pulse quick and full; tongue white; skin very hot. He had already taken some purgative medicine. On the 20th of December he cut himself, just below the left knee, with an adze; but he continued to work until the 31st, when he was attacked with severe shivering and sickness of stomach, and on the 1st of January the leg began to swell. He was ordered one grain of tartar emetic in a quart of whey, to be drank within twenty-four hours, and a large cataplasm to be applied over the wound and leg.

Second day. The medicine did not vomit him, nor did it affect his bowels, but he was nauseated; the swelling is much reduced; pulse not so quick nor full; tongue cleaning. Remedies to be continued.

Third day. Swelling greatly reduced; redness almost gone; no pain or uneasiness anywhere; pulse quiet; bowels not freed. He was ordered cathartic pills of rhubarb and blue pill; the tartar emetic to be continued.

Fourth day. There is only slight œdema remaining in the foot; the entire leg has a shrivelled look; no desquamation; wound healing; bowels free; pulse regular. He was ordered to take an ounce of the following mixture three times a day:—sulphate of quina, eight grains; dilute sulphuric acid, half a drachm; water, eight ounces.

Sixth day. He says he is quite well, and wants to go to his work: there are no remains of the erysipelas except the shrivelled appearance of the leg; the wound is almost healed.

CASE X.—*Traumatic Erysipelas of Hand and Arm*.—I was sent for to see Lydia Verdon, aged 17, on 17th October, 1849; the right hand and arm were greatly swollen, and of a dark red colour, with large bullæ near the elbow; face flushed; tongue covered with ash-coloured fur; bowels confined; head-ach; bitter taste in the mouth; pulse small and quick. She had a large wart on the middle finger of the right hand, which was very sore; she had used this hand much in washing, and had not been in very good health previously; on the 15th she suffered from sickness and shivering, when her hand commenced to swell. Ordered a grain of tartar emetic to be dissolved in a quart of barley-water, of which a wine-glassful was to be taken every second hour.

Second day. She had taken only one dose of the medicine, which vomited and purged her severely; what she passed was very yellow; the arm is not so tense nor so dark coloured; the erysipelas has not extended, and the pain is much less; pulse the same; tongue cleaning. Tartar emetic to be continued.

Third day. The swelling is much reduced; the skin shrivelling, and she can move the fingers; the bitter taste in the mouth almost gone; pulse fuller; tongue cleaning; bowels regular. Tartar emetic to be continued.

Fourth day. The swelling has disappeared, except at the posterior part of the elbow; tongue clean; bitter taste in the mouth gone; bowels regular; pulse 72. Tartar emetic to be continued; to take half an ounce of the following mixture three times a day:—sulphate of quina, eight grains; dilute sulphuric acid, twelve drops; water, eight ounces.

Sixth day. The swelling is quite gone; skin coming off the arm and hand; she can use the hand.

CASE XI.—*Traumatic Erysipelas of the Left Leg, supervening on a large indolent Ulcer, in a Man who was paralysed for*

twenty Years.—William Sampson, aged 45, sent for me on Tuesday, 5th March, 1850, on account of a great swelling of the left leg, which is much larger than the other, and of a deep mottled red colour; the disease extended from the foot to an inch above the knee, and was here marked by a well-defined line; the ulcer is dark coloured, with elevated edges, and has a sanious discharge; he complains of great pain; tongue thickly coated with yellow fur; bowels confined; pulse very small and frequent; no sleep. He has been paralysed for the last twenty years, and has suffered from the ulcer for a long period; he had not been very well for some time, and on Sunday, 3rd March, he was seized with shivering and vomiting; what he threw off was yellow bile; that night his left leg commenced to swell. He was ordered to take a wine-glassful every second hour of a solution consisting of a grain of tartar emetic dissolved in a quart of barley-water.

Second day. The solution vomited him, and he threw off a quantity of yellow bile, the consistence of yolk of egg; pulse 120, fuller; tongue cleaner; leg not so swollen, nor so dark-coloured; the pain not so severe; he got some sleep last night. Tartar emetic was directed to be continued; and he was ordered cathartic pills of rhubarb and blue pill.

Third day. The swelling had increased again, and the red line was much extended; his face was flushed, and every appearance indicated that the disease had made rapid advance; this surprised me much, and upon asking about his medicine he said that he had taken none since I was there, nor would he do so. I then got him admitted into hospital, where he was treated by incisions, and made a very slow recovery.

CASE XII.—I was sent for to see Anne Spencer, aged 37, on 7th June, 1848, on account of an attack of erysipelas of the left side of the face, which, together with the nose, was greatly swollen, of a deep red colour, and very painful to the touch; she suffers from constant vomiting; the tongue is thickly furred with a yellow coat; skin hot; great thirst. She had been suf-

fering excruciating pain of an intermittent character in the left orbit (she had lost the eye about two years previously), since the 3rd of June, and on the evening of the 6th she was seized with vomiting, when the erysipelas made its appearance, and the pain left the eye. A grain of tartar emetic to be dissolved in a quart of barley-water; a wine-glassful every second hour.

Second day. The first dose of the medicine was vomited immediately, and her bowels were moved soon afterwards; the vomiting and purging continued until the third dose, and then they stopped, and she says she is now a great deal better; all sickness gone; tongue much cleaner. This case ran a very favourable course. The patient only got two grains of tartar emetic, and was then put on the sulphate of quina mixture; but she insisted on my getting her into hospital, from which she returned well in less than a fortnight.

CASE XIII.—*Erysipelas of the upper Part of the Trunk, extending to the Face and Head*.—I was called to see Mrs. Brown, aged 36, on the 22nd June, 1844, on account of great swelling of the anterior and upper part of the chest and neck, extending round to the back of the neck; the parts were of a dark red colour, and pitted on pressure; pulse quick; tongue thickly furred; no raving; skin burning hot. Four days previously she felt herself very unwell, with headach, bitter taste in her mouth, and, two days before I saw her, had a severe shivering fit, with vomiting, after which a slight red swelling, attended with a burning sensation, made its appearance near the breasts. Ordered one grain of tartar emetic in a quart of whey; a cupful of this frequently, so that the entire should be taken within the twenty-four hours.

Second day. The medicine made her very sick, and she threw up a quantity of green bile; her bowels were only slightly freed; there is no improvement in the appearance of the erysipelas, which has extended to the back of the head and face. Tartar emetic solution to be continued.

Third day. The medicine did not make her sick; she says she is much better; the erysipelas has extended over the face and head, but it has disappeared on the chest and the lower part of the neck; she complains much of headach; bowels not free; pulse not so quick, and tongue cleaner. Tartar emetic to be continued, and a purgative of castor oil and tincture of rhubarb to be taken immediately.

Fourth day. Bowels freed; headach gone; tongue cleaner; pulse quiet; she complains of soreness in the back of the head, though there is no swelling there. The tartar emetic made her sick a second time: to be continued.

Fifth day. The swelling almost gone from the face; desquamation taking place on the chest and neck; pulse very weak; she complains of great prostration. Tartar emetic to be omitted; to have a wine-glassful of the following mixture three times daily:—sulphate of quina, eight grains; dilute sulphuric acid, one drachm; water, eight ounces.

Eleventh day. She gradually gained strength since last report, and desquamation has taken place over the entire face.

Sixteenth day. All swelling and redness have disappeared; pulse fuller; tongue quite clean; appetite returning; bowels free; sleeps well; convalescent.

Such are the details of a few cases of the ordinary forms of erysipelas. It appears to me unnecessary to narrate the particulars of any more; but I may add, that the following observations are founded on the results of all the cases I have treated, which amount to seven cases of traumatic, and fifty-six of idiopathic erysipelas(a).

The predisposing cause of the disease seems to me to be a derangement of the liver and digestive organs, which gives

(a) Of these sixty-three cases the mean duration of the disease, after the commencement of treatment, was seven and a half days. Many cases recovered in three days, and the longest period was seventeen days; but this was in a case complicated with delirium tremens.

rise to a peculiar kind of fever or constitutional irritation; this irritation nature attempts to get rid of by the erysipelatous inflammation of the cuticular surface. If the constitutional irritation be not sufficient to cause this inflammation, great anger (as in Case II.), a blast of cold moist air, the application of any irritating substance to the skin, surgical operations, punctured wounds, ulcers, any abrasion of the surface, or other injury which in a healthy constitution would have either healed immediately or caused phlegmonous inflammation, will be sufficient to give rise to it. These appear to be the immediate causes of erysipelas. We find that this peculiar state of the constitution is most frequently met with in those addicted to drink malt and spirituous liquors, and lead intemperate lives; also in those who are sedentary and subject to great depression of mind. We find also, that the state of the air has the power of producing this peculiar kind of fever, for the affection is most frequent in autumn, or in seasons when hot weather is succeeded by cold and wet. Patients in hospital often suffer from this constitutional irritation, from breathing confined and bad air.

I have come to the above conclusion, that erysipelas is a peculiar kind of fever, or constitutional irritation, producing an inflammation of the skin, or skin and subjacent areolar membrane, for the following reasons:

First. The disease, like small-pox, measles, &c., is subject to metastasis, as in Case VI.

Second. There is always the same train of symptoms preceding and attending each case.

Third. A very minute dose of tartar emetic, which would have comparatively no effect in other inflammations, generally causes severe vomiting and purging in this.

Fourth. In mild cases, the disease will wear itself out; the part where the eruption first appeared getting well, while the disease is spreading to sound parts; and this continues until the system is completely rid of the poison which caused this

peculiar fever. The patient then is in better health than for some time previously(*a*).

Fifth. It often recurs in the same patient at stated intervals; or if a patient who has had an attack lives irregularly, he is almost certain to suffer from a recurrence of the disease.

Sixth. That it is propagated by contagion will most probably be acknowledged, though I have myself seen but two instances; yet the observations of Lawrence, Copland, and others, appear to establish the point.

Erysipelas has been variously classified in all ages, but the following division appears to me to be the most natural and practical, viz.:—First, *Idiopathic Erysipelas*, that which arises spontaneously without any manifest cause; and second, *Traumatic Erysipelas*, or that which arises from some external or manifest cause, such as surgical operations, wounds, &c. Having propounded the opinion, that erysipelas is a poisoning of the blood caused by derangement of the chylopoietic viscera, and that nature excites a peculiar inflammation to get rid of the poisoning, I shall now attempt to prove that the plan of treatment which I have followed, and which is founded on that theory, is the most efficacious.

The treatment recommended in erysipelas has been as opposite as possible. Some practitioners advise it to be treated as a purely inflammatory disease, by venesection, local bleeding, purgatives, and low diet. For this plan high authority, both ancient and modern, can be brought forward. Others, taking a far different view of the disease, look on it as a species of putrid fever, and recommend tonics and stimulants, such as bark, ammonia, and wine, and object to all kinds of evacuations. Mr. Lawrence, who has written one of the most valuable treatises on the subject(*b*), is at the present day the most strenuous supporter of the antiphlogistic treatment. He thus

(*a*) There are cases of this kind recorded where the eruption passed over the entire body.

(*b*) *Medico-Chirurgical Transactions*, vol. xiv. p. 1.

speaks: "As erysipelas resembles other inflammations in its causes, symptoms, and effects, it should be treated on the same principles, that is, on the antiphlogistic plan. Venesection, local bleeding, purging, and low diet are the first measures, to which saline and diaphoretic medicines may be afterwards added." He then says the earlier these means are employed the better. Vigorous treatment in the beginning seems to him most calculated to shorten the attack and prevent the disease from spreading beyond its original seat. This treatment, Mr. Lawrence states, must be, like that of any other inflammation, modified according to the age, constitution, previous health and habits of the patient, and the period of the complaint. He likewise recommends, in that form of erysipelas which he calls phlegmonous, one or more long incisions to be made through the inflamed skin and the subjacent adipose and areolar textures, which are the seat of the disease, and these incisions to be made at the commencement of the attack. If this be not done, the inflammation, he says, will pursue its course, both in the areolar membrane and skin, in spite of bleeding, whether local or general; suppuration and sloughing rapidly supervene, and these destructive processes soon extend over a large portion of a limb. Medical practitioners, he states, are in general too anxious to begin the strengthening plan, which often causes relapses; he considers that ammonia is the best stimulant when there is doubt on the subject, bark next, and that wine should be given very sparingly. Mr. Lawrence has followed in the steps of Sydenham, who says: "I bleed from the arm at once; next day I give my usual mild cathartic; and at bed-time, in case the patient has passed too many motions, a paregoric draught, such as syrup of poppies. In the meanwhile the patient must live on barley-broth, oatmeal gruel, and roasted apples. He may take a little of the smallest beer, and leave his bed for a few hours daily. To this method the fever generally gives way in a short time; if not, I bleed a second and a third time."

Such are the opinions of two of the most strenuous supporters of the antiphlogistic plan of treatment. I shall next mention that of Dr. Fordyce, who is one of the strongest advocates of the stimulant plan. He says, "that he has always found bleeding and evacuations hurtful, and Peruvian bark the best remedy. It should be exhibited in substance, if the patient's stomach will bear it (and in this disease it always will) and in as great quantity as the patient will bear, which is commonly to the quantity of a drachm every hour." Dr. Fordyce is followed by Dr. Wells, and other practitioners, both foreign and English, who to the present day strongly advocate the tonic plan of treatment.

Having mentioned the antiphlogistic and tonic methods of treatment, I shall now allude more particularly to the third plan, that recommended by Desault. He says: "In the bilious erysipelas, whatever degree of fever and heat may exist, I give, in the first instance, a grain of tartar emetic dissolved in a considerable quantity of fluid. The symptoms generally diminish as soon as the effects of the medicine have ceased. I have seen them entirely subside, although the medicine produced no other sensible alteration in the animal economy than an increase in the secretions of the insensible perspiration and the urine. Sometimes the symptoms resist the evacuations, and we are obliged to have recourse once or twice, or even more frequently, to the use of the emetic drink."—"When the erysipelas is cured, and the bitterness in the mouth and fever have subsided, two or three purges of cassia and manna, with a grain of tartar emetic, are exhibited. During the treatment the patient is ordered to drink freely of a diluting ptisan acidulated with oxymel. As soon as the symptoms are mitigated, the diet of the patient is enlarged; for when it is too rigidly observed the acrimony of the humours is apt to be increased, and the bilious erysipelas to be reproduced, particularly in hospital, where the air, generally speaking, is unhealthy. I have invariably observed that the cases of persons

who had been bled previously to their admission into the hospital were more serious and obstinate, particularly when it had been frequently repeated. The same practice is not applicable to the phlegmonous erysipelas: in this kind emetics and other evacuants augment the irritation and tension already considerable, nor should they be had recourse to till the plethora and irritation of the patient are diminished by one or more bleedings, according to the urgency of the symptoms and the strength of the patient. The bilious erysipelas that then appears points out the necessity for evacuants, and the proper time for their exhibition."

I have now alluded to the different modes of treatment recommended both here and on the Continent. The first and second are diametrically opposed; and the last agrees with the first, with this exception, that in it is employed an agent which, in my opinion, may be called a specific. But Desault says we are not to bleed in the bilious erysipelas, but to depend on the tartar emetic; in the phlegmonous, on the contrary, we are to bleed even more than once if necessary, until we have reduced it to the bilious, and then we are to commence with the tartar emetic. Now, in my opinion—an opinion borne out by the results of the sixty-three cases of erysipelas which I have treated on the plan described in this paper—there is no form of the disease which should not be attacked from the first with tartar emetic, whether there be high inflammatory fever, as we have in Cases VIII. IX., low typhoid fever, as we have in Case III., vomiting, as in Case XII., or purging, as in Case IV.; and under all and every circumstance we shall find that the disease yields to this remedy. But I must be understood to say, that we are not to give this medicine in large doses, as recommended by Richter and other practitioners, who adopt his plan of treatment; for then it produces too violent an emetic effect, causing much general irritation, which being superadded to the irritation of the disease, the beneficial effect of the remedy is prevented: but I advise it to be given

in very small doses, as recommended by Desault, which may have to be repeated three or four times, so as not to allow the action of the medicine on the system to subside, for if it does we shall very likely find the disease to make more rapid progress after the first check, as occurred in Case XI.

Tartar emetic appears to me to act specifically in erysipelas for the following reasons, which depend on its sensible effects:—In most cases it vomits and purges after the second dose, as in Cases I., II., IV., V., VI., VII., X.; or it vomits only, as in Cases VIII., XI., XIII.; or it purges only, as in Case III.: and what is vomited is green bile, and the same is passed by stool. I have known the second dose to cause from twelve to fourteen stools of bilious matter, with a decided remission of the symptoms. Now I have ordered this medicine in the same proportion in other diseases, as in phlegmonous inflammation, without the least perceptible effect on the patient; I have given it in bronchitis without any visible effect; and in other diseases I have administered it in the same proportion, and have found no such violent action as I have invariably seen even in the mildest cases of erysipelas.

If, from what I have now said of tartar emetic, it is to be expected to cure every case of erysipelas when administered alone, disappointment will ensue, as all that it seems to do is to remove from the system the morbid matter which appears to have caused the disease, and which nature was attempting to get rid of; as soon as that is done we must give the patient tonics, either wine or porter, strong broth, bitters, bark, ammonia, or quina: of all these I have found the sulphate of quina the most successful. It may be asked, at what time are the tonics to be given? The general rule I would lay down is, that as soon as we find the erysipelatous surface to be getting a yellow tinge, and the skin shrivelling a little, the tongue cleaning, and the pulse, which generally falls under the influence of the tartar emetic, becoming more frequent, the proper time has arrived to commence with tonics and omit the tartar

emetic. In some cases where we have not so marked an improvement in the symptoms, and we are afraid the strength is failing, we shall have to commence the tonics, while we are still continuing the tartar emetic, as happened in Cases I. and II. In other cases, where there are low typhoid symptoms, with prostration of strength, as in Case III., we shall have to give, with the tartar emetic, stimulants and tonics from the commencement.

While the patient is taking tartar emetic the bowels may be constipated, and we shall have to give some aperients: the saline aperients are what are generally recommended, but I usually order the compound rhubarb pill, with blue pill, in the proportion of three grains of the former to one of the latter, to be made into a pill; two of these to be taken for a dose, and, if necessary, to be repeated in six or eight hours. I prefer this combination, as it acts on the liver and large intestines.

I will next refer to the different local means that have been recommended in the treatment of erysipelas; first premising that I am opposed to any local application, except in idiopathic erysipelas, in which flour or powdered starch may be used, which I consent to more to gratify the patient than from any idea of their efficacy; and in traumatic erysipelas I recommend the part to be enveloped in a large linseed-meal cataplasm.

The first local treatment I shall mention is the abstraction of blood by the application of leeches; against this there is a great prejudice, as erysipelas often ensues from the bites. The second is that recommended by Mr. Hutchinson, viz., making from four to eighteen incisions of about an inch and a half in length, and from two to four inches apart, down to the fascia, with the intention of relieving the tension of the parts, of abstracting blood, and allowing the serum and other fluids to drain off. Mr. Lawrence has proposed a modification of this treatment: he makes one long incision, the entire length of the diseased surface. The objections to these plans are, that

in most, if not in all cases, they are unnecessary, unless when the case has gone into the third or suppurative stage, then incisions are required to give exit to the matter and sloughs; they cause the cure to be very tedious, and there is danger of a greater loss of blood than the patient can bear. The long incision recommended by Mr. Lawrence is that which is most generally approved of in this city; but, from my own experience, I am satisfied that the antimonial treatment, if adopted at an early stage, is quite adequate to obviate the necessity for any of these plans of local treatment, at least in the great majority of instances.

Dr. Fahnestock of Pittsburgh recommends the local application of creasote: "In every case of local erysipelas," says he, "we must apply the purest creasote, with a camel's-hair pencil, over the whole affected surface, extending some distance beyond the inflamed part; but at the same time we must administer a dose of calomel, followed by a sufficient quantity of jalap to insure free catharsis"^(a). I have never seen this application used, and therefore cannot speak of its effects.

Another local application, and one which is strongly recommended by Professor Velpeau, is sulphate of iron, either in solution or ointment, the former in the proportion of an ounce of sulphate of iron to a pint of water, to be applied every second or third hour to the affected parts; the latter in the proportion of two drachms and a half of sulphate of iron to an ounce of prepared lard, to be applied every third hour. But he says, "Should the disorder appear to be produced by some internal cause, we must first direct our remedies against this; the sulphate of iron being only really efficacious when the inflammation is purely local." For my part I consider all cases of erysipelas to depend on some internal cause.

Nitrate of silver has been recommended, by Mr. Higginbottom of Nottingham, to be applied over the entire of the

(a) Provincial Medical and Surgical Journal, October 14, 1848.

inflamed surface. He says: "I have never in any case seen metastasis or any other bad effect from its use." He uses it in the following manner:—nitrate of silver, four scruples; nitric acid, six drops; distilled water, half an ounce: mix. This is to be applied several times on the inflamed parts, and for two or three inches beyond the inflamed on the healthy skin.

M. Piorry has recommended the use of linear blisters, by means of which he states that he has discovered a method of effecting the desired limitation of inflammatory action with great certainty. At the commencement of the disease he applies narrow blisters around the entire circumference of the inflamed skin, at the distance of one or two inches from its border. Nitrate of silver and solutions of sulphate of iron have been long used with the same view, but they have for the most part failed.

The only other application which I shall mention is mercurial ointment. This is to be smeared over the entire of the inflamed surface. It was first recommended by Ricord, and is still strongly advocated by some of our leading men.

The last is the only local application which, in my opinion, is worthy of consideration, as it acts not locally but constitutionally, for we know that in a very short time the system is affected by the mercury, and as soon as that takes place the erysipelas gradually declines. But with respect to the other local applications, I consider that they are injurious without constitutional treatment, and with it unnecessary. As, if my ideas are correct, viz., that the erysipelatous inflammation is the method taken to throw off the morbid state of the blood, anything that tends to check that eruption will be the means of preventing the efforts of nature, and probably cause a metastasis to some other part of the body, it may be to a more vital organ, for we have on record many cases of metastasis of erysipelas to the brain, larynx, and pericardium.

As a summary of these remarks I would draw the following conclusions:

First. That erysipelas is a constitutional disease, depending solely on a morbid state of the blood; and that the eruption and fever are the means nature takes to get rid of this poison.

Second. That, for all practical purposes, it is only necessary to divide the disease into idiopathic and traumatic.

Third. That tartar emetic seems to act specifically in erysipelas, by assisting nature in her efforts to throw off the disease.

Fourth. The best method of administering this medicine is by dissolving one grain in a quart of any bland fluid; the solution to be taken in the twenty-four hours.

Fifth. That as soon as the tartar emetic has acted sufficiently, sulphate of quina, or some other tonic, is to be administered.

Sixth. That if the patient is debilitated we must administer tonics at the same time that we give the tartar emetic.

Seventh. That under this treatment the erysipelatous inflammation may spread, but not with the same violence, nor to the same extent, as if the disease were left to itself.

Eighth. That we shall often require to give aperient medicine during the course of the case, as it is absolutely necessary to keep the bowels free.

Ninth. That local applications are unnecessary, and often injurious.

Tenth. That incisions are not necessary, except in the third, or suppurative stage; and if the antimonial treatment be early resorted to, it very rarely occurs that suppuration takes place.

ART. IV.—*On the Treatment of Traumatic Tetanus.* By H. R. DE RICCI, Licentiate of the College of Surgeons of Ireland.

OF all the diseases to which suffering humanity is liable, none perhaps is more formidable than Tetanus; unerring in its

symptoms, steady in its progress, torturing in its effects, it rarely leaves its victims till it consigns them to the grave.

Known and studied from the remotest antiquity, it still continues to baffle the science and the ingenuity of man, and all the numerous therapeutic agents of both ancient and modern pharmacy, which from time to time have been brought in array against this fearful disorder, have almost invariably failed to effect the desired cure. In some rare instances it may have seemed to yield to a special treatment, but subsequent trials of the same plan have generally ensued in disappointment, and a specific for the cure of tetanus, if such exists, is yet a desideratum.

The want of success which, up to this time, has attended the treatment of this malady, has I, conceive, mainly arisen from its very obscure pathology, but partly also from the random manner in which the many remedies for it have been selected and administered. But now that its physiology has been so beautifully illustrated by Marshall Hall, in his discoveries regarding the reflex functions of the spinal cord, we cannot but hope that a plan of treatment, will be found, which, by being more rational in its principles, shall also be more successful in its effects.

Tetanus has been for ages classed into two divisions, the traumatic and the idiopathic. This last, though common in the West Indies and other inter-tropical climates, is almost unknown in this country, and as, when a case does present itself, it is generally by no means an unmanageable disease, I shall pass it over in silence, and proceed at once to speak of the traumatic species, to the consideration of which this paper is specially devoted.

Two forms of traumatic tetanus have been generally admitted by all practitioners, the acute and the chronic; the former almost invariably fatal, the latter somewhat more amenable to treatment.

Acute cases of tetanus may be considered as those in which

the symptoms supervene before the tenth day after the receipt of the injury, and in which the spasms succeed each other at short intervals, and with great violence; and chronic, those in which the attack comes on at a later period, and in which the spasms are less violent and recur at more distant intervals. But on this all practitioners are not agreed, for many will not acknowledge as genuine tetanus those cases which have followed very quickly the receipt of the injury. I think it well, therefore, before proceeding any further, that we should stop for a moment, and consider what it is that constitutes real tetanus, and what are the diagnostic differences between it and other convulsive diseases, which will enable the careful and accurate practitioner to say, without hesitation, this is or this is not a case of tetanus.

Many affections are laid down in books as being likely to be mistaken for tetanus, and tetanus for them: among the principal we may enumerate hydrophobia, different forms of convulsions, hysteria, and muscular rheumatism of the back of the neck; but the only one which indeed might for a time lead astray, and which does in all its minutiae imitate tetanus, is hysteria. This far-famed mimic of disease will put on *for a time* all the appearances of tetanus, and will deceive even the most accurate; but though it will assume even the most pathognomonic symptom, yet it will persist in it *only for a time*, and thus the practitioner will be enabled to correct his diagnosis. What then is the diagnostic symptom of genuine tetanus, which distinguishes it from all other diseases, and which, by being peculiar to it, must at once characterize as tetanus every spasmodic case in which it is prominent? In my opinion, *it is the unyielding rigidity of the affected muscles*; these, when once rigidified, so to say, by tetanic spasm, never relax, except in recovery or death. In hydrophobia there may be tetanic rigidity during the paroxysms, but in the intervals there are periods of rest, during which there is complete relaxation of all muscles. In hysteria the spastic condition of the muscles will

sometimes be continued for a very considerable time; but it ends at last by relaxing; and the same occurs in all those different forms of convulsive affections, which seem more or less to imitate tetanus.

Thus, then, the only disease in which this permanent rigidity of muscle is met with is tetanus; and in my mind we are justified in applying this name to all those spasmodic affections in which this symptom is prominently developed.

Having thus endeavoured to establish the symptoms by which this fearful disorder is to be recognised, I will proceed to examine it in its different stages, and then explain the principles of what I consider to be its rational treatment.

Tetanus seems to be a more frequent consequence of lacerated wounds and contusions of the extremities than of other injuries; but I have seen it arise from a very slight scratch of the nose; and many cases are on record where it occurred after trifling bruises, in which the skin had not been even wounded. Still it is a remarkable feature in this disease that it is certainly more frequent after slight than after extensive injuries, and that it generally bears an inverse ratio to the extent of the effect of an accident.

One of the first symptoms of approaching tetanus is a certain unpleasant rigidity in the back of the neck, which may be easily mistaken for rheumatism, together with a general malaise, accompanied with a sensation of weight and a tendency to yawn. The wound, when one exists, will also at times give indication of approaching mischief by the unhealthy aspect it assumes. These and other indications, coming on shortly after the receipt of an injury, should be carefully noted, as it is of the very greatest importance that the first symptoms should be recognised; for it is in this, its first stage, before the spinal cord has assumed that peculiar condition which induces the violent spasmodic action constituting confirmed tetanus, that our treatment will have the best chance of success.

The mode of treatment I shall venture to recommend, will

meet, I know, with absolute condemnation from the majority, and with approbation from few, if from any. Yet, as it is based upon sound physiological principles, it will, in my opinion, succeed, if tried sufficiently early. I do not mean by this to say that the plan I propose will cure every case of tetanus, no more than the most approved treatment can cure every case of pneumonia ; but I believe that I shall thereby blot out tetanus from the list of those diseases over which the healing art has no control.

It would seem that a wound inflicted on the sentient extremities of the afferent nerves produces, in certain conditions of the body, such an exalted state of the excito-motory system, that the power of the will is insufficient to control this condition ; hence, on the application of a stimulus, for example, the vibration of the bed from a heavy footstep in the room, or a mere attempt at deglutition, involuntary spasmodic motions will be produced, without the patient being in any way able to repress them.

It would also seem that lacerated wounds, contusions, and other injuries of the extremities of nerves, are more often the cause of tetanus, than the clean wounds inflicted by a sharp, cutting instrument ; in proof of which we may refer to the rarity of the disease supervening after sabre cuts in battle, or after wounds inflicted by the surgeon in the operating theatre.

In many *post mortem* examinations of fatal cases of tetanus, a nerve has been found partially divided, or lacerated, or stretched across a broken bone ; and we have cases on record (though few indeed) in which the division of the principal nerve leading to the part, or the amputation of the part itself, has at once put a stop to all spasm.

I therefore conclude from these facts, that, in the treatment of this disease, we are justified, with the view of removing the exciting cause, to amputate the entire part, or to divide the nerves leading to it. Having once removed the source of the evil, we shall find it less difficult to combat the disease ;

but before we proceed to consider the treatment, it will be well to investigate what are the causes of the patient's sufferings, and what the causes of his death. The chief and most severe of all his sufferings is the constant recurrence of the spasms, which, in addition to the excruciating pain at the ensiform cartilage, are so harassing in themselves, that did the patient suffer from no other ailment, he should finally sink, worn out by these repeated attacks. We must, therefore, endeavour to check this disordered condition of the nervous system, both by equalizing the powers of the brain with those of the excito-motory apparatus, on the one hand, and rendering the muscles incapable of obeying the erratic dictates of the spinal cord, on the other. For in tetanus the energies of the brain are minus, whilst those of the spinal marrow are plus, and we must, therefore, exalt the powers of the encephalon, to enable it to preserve its normally relative position in reference to the excito-motory system: this we effect by the free administration of stimulants, such as wine, brandy, and especially the resin of Indian hemp, which possesses the property of exciting the brain independently of other parts of the human frame. And we obtain a passive condition of the muscles by means of tobacco enemata and fomentations, the relaxing and paralyzing effects of which are well known. The use of the latter powerful remedy might in unskilful hands be attended with danger, and its administration should therefore be solely intrusted to an intelligent and careful person, whose business it should be to watch narrowly its effects; but under certain restrictions it is admirably adapted to fulfil the purpose we require of it, as under its nauseating influence all the muscles gradually relax from their rigidity, and become unable to execute any automatic movement, or in any way to respond to the convulsive impulses of the spinal cord.

Our patient is now in a state of comparative ease; his brain is exalted in its energies, and thus enabled to counteract the spasmodic motions of the spinal cord; and, when it fails, the

paralysed condition of the muscles comes to its aid, by refusing to act in compliance with the impulse. The pain at the ensiform cartilage too is relieved, and the patient's forces are no longer exhausted by overpowering convulsions. When once the patient is brought to this condition, his safety is almost a matter of certainty: for what is the cause of death in tetanus? it is either exhaustion or asphyxia, and not any specific action or morbid poison inherent to the disease itself. Asphyxia is caused by the persistent rigidity of the respiratory muscles; exhaustion, by the repeated attacks of spasm. But, by the treatment I suggest, both these conditions are done away with, the sufferer is relieved from any immediate danger of impending death, and his nervous system has now time to correct the morbid functional condition into which it had lapsed, and by degrees will resume its normal functions.

In fine, my treatment resolves itself simply into copying the process of nature; and I believe that successful plans of treatment in every disease have been derived from copying this great teacher. Experience of centuries has shown us that cases of acute traumatic tetanus invariably die when left to themselves; and that cases of the chronic variety generally recover. Let us bring our patient from the former condition into that of the latter, and we shall have him in a position in which his own forces, and the resources of nature, will be sufficient to effect his recovery.

In proof of the practical value of the theory I have now propounded, I shall subjoin the particulars of two cases in which my mode of treatment was adopted in part, and in which it proved entirely successful.

Patrick Carroll, aged 25, stone-mason by trade, was admitted into the Parsonstown Infirmary on the 20th of July, 1841, with a lacerated wound of the great toe, caused by the fall of a large stone on it, which had nearly severed the first phalanx, injuring at the same time, though in a less degree, the second and third toes of the same foot. The accident occurred

at four o'clock, P. M., and the man was admitted into hospital almost immediately. He got a cathartic mixture, and a spirituous lotion was applied to the wound. At eight o'clock the same day (precisely four hours after the receipt of the injury), Dr. Waters was sent for to see the man, who, according to the nurse's report, had had several fits during the last half-hour. He at once recognised the so-called fits as tetanus, all signs of which were prominently marked. At this period the muscles of the neck, face, and abdomen were *permanently rigid*; and the spasms violent, and recurring at intervals of less than two minutes. He complained of soreness and stiffness about the throat, and difficulty of swallowing; he was bathed in perspiration, and greatly alarmed about himself. His pulse was 130, small, and the characteristic risus sardonicus was strongly marked. He was ordered tobacco fomentations over the abdomen, and a tobacco enema (fifteen grains of tobacco to eight ounces of boiling water) every half hour, so as to keep up a state of nausea, this to be thrown up with O'Beirne's tube.

20th July, 10 P. M., *six hours after the accident*, he was greatly prostrated, and complained of deadly sickness; he had vomited large quantities of a dark green fluid; the spasms were as violent as ever, and the muscles rather more rigid. Emprosthotonos strongly marked; pulse 100, very small. Ordered to continue the fomentations and enemata, the frequency of the latter to be regulated by the effect, so that a constant nausea should be kept up. A liniment of croton oil and turpentine was also ordered to be rubbed along the spine, until a free eruption was produced.

21st, 10 o'clock A. M., *eighteen hours after the accident*; during the night he has had twelve enemata, and the fomentations have been continued uninterruptedly; thus the nausea has been maintained. As his bowels had not been freed, he was ordered two drops of croton oil.

21st, 8 o'clock, P. M., *twenty-eight hours after the accident*; spasms less violent, and the interval between them in-

creased to five minutes. The patient is now for the first time inclined to sleep, but is prevented by the recurrence of the spasms; he swallows with difficulty; pulse 100, very small. Nausea continues under the incessant administration of the tobacco enemata and fomentations; he, however, expresses himself as being better. His bowels not having been acted on, he was ordered three drops of croton oil, to be taken at once.

22nd, 10 o'clock, A. M., *forty-two hours after the accident*. The patient is considerably better; spasms are much less violent, and the interval between them is increased to ten minutes. The muscles are still very rigid, but he complains less of difficulty in deglutition. Bowels well acted on.

22nd, 9 o'clock, P. M., *fifty-three hours after the accident*. I was disagreeably surprised at finding the patient much worse, the spasms had considerably increased in violence, and the interval was again reduced to five minutes. He has great anxiety, no inclination to sleep, great difficulty in swallowing, intense rigidity of abdominal muscles; pulse 130, very small. He was ordered the croton oil and turpentine liniment again to the spine, and the tobacco fomentations and enemata to be continued incessantly.

23rd, 10 o'clock, A. M., *sixty-six hours after the accident*. I found him much better this morning, the rigidity of the muscles considerably diminished, spasms less violent, and the interval increased to ten minutes; deglutition less difficult; pulse 100; bowels well freed.

23rd, 9 o'clock, P. M., *seventy-seven hours after the accident*. Continues better; spasms less violent; rigidity of muscles is diminishing; easier deglutition; pulse improved; bowels free. Ordered a tobacco enema every third hour only.

24th, 10 o'clock, A. M., *ninety hours after the accident*. Much better this morning; he has slept well during the night; swallows well; rigidity of abdominal muscles almost disappeared, and he declares himself quite well. All medicines were now

suspended, and he rapidly recovered. During the course of his illness he got plenty of wine, brandy, and beef-tea. The wound constantly presented a healthy appearance.

In the foregoing case, which was one of the most acute on record, death was averted by means of tobacco and stimulants; I do not say cured, as I consider that was effected by nature. He had, however, a very narrow escape on the recurrence, or rather the exacerbation of the symptoms fifty hours after the accident; and I am firmly convinced that he would not have run that risk, had his lacerated toes been removed on his admission into hospital. He recovered, however, perfectly, and lived till last summer, when he fell a victim to the cholera.

For the notes of the following case, I am indebted to the kindness of Mr. B. B. Cooper, of Guy's Hospital, London.

William Marshall, aged eleven years, was admitted into Guy's, under Mr. Cooper, with an extensive injury of the left leg, caused by the wheel of a baggage train which had crushed it up against some brick-work. On examination the whole of the lower third of the thigh on the inner side was stripped of integuments, and a considerable portion of the saphena vein was exposed. The posterior tibial artery and accompanying veins were torn across, and the posterior tibial nerve was laid bare for about three inches of its course. There was also an extensive lacerated wound of the inner side of the foot, with fracture of the scaphoid and metatarsal bones of the great toe. When admitted he was in a collapsed state, body cold, and pulse 100, very feeble. Ordered some carbonate of ammonia.

A consultation having been held, it was determined to allow the limb to remain; the artery was therefore tied both above and below, and the soft parts were brought together with adhesive plaster.

Second day. He was recovered from the shock; pulse 130, feeble. He was ordered ten grains of calomel and colocynth pill, to be followed by a senna draught, and the saline mixture every fourth hour.

Third day. Wound presented a sloughy appearance. Patient drowsy and complaining but little of pain; bowels open; pulse 126, feeble.

Fifth day. He was dreaming much last night, and has become very restless and irritable; skin dry; pulse 130, feeble. Ordered decoction of bark, with carbonate of ammonia; an opiate at night; porter; four ounces of wine, two eggs, and arrow-root.

Seventh day. He still continues irritable and restless, and there is not the slightest reparative action in the wound.

Twelfth day. Is exactly in the same state, except that his bowels having become irritable, he was ordered chalk mixture.

Thirteenth day. Bowels less irritable. The injured limb is drawn up by spasm, and there are twitchings of the facial muscles. Patient is very restless; pulse 130; skin dry and hard.

Fourteenth day, 8 o'clock, A. M. There are now decided tetanic spasms. The angles of the mouth are retracted, and there is general rigidity of the muscles. The mouth can be opened with difficulty, but he can be fed as usual. His respiration is hurried, and he is extremely restless and irritable. 11 o'clock, A. M.—Tetanic symptoms are increased in severity; the mouth cannot be sufficiently opened for the admission of food. The general rigidity of the muscles is increasing. 4 o'clock, P. M.—Mr. B. B. Cooper removed the limb, by the circular operation, below the knee.

Fifteenth day. All tetanic symptoms have disappeared; the face has re-assumed its natural appearance; the mouth can be freely opened, and he is much less irritable; pulse 124; skin warm and moist.

Sixteenth day. Has passed a good night; pulse 120, firm.

Eighteenth day. Does not feel as well as yesterday; there is a slight redness of the left knee, and the right foot is swollen and tender. Ordered calomel and opium pills every hour.

Twenty-first day. The swelling has extended up the right leg, and involves the stump also; the scrotum and abdomen are also cedematous.

Twenty-fourth day. Is getting daily worse; pulse 130, feeble.

Twenty-eighth day. He became gradually worse, and died at 5 o'clock, P. M.

A *post mortem* examination, nineteen hours after death, revealed extensive deposits of pus in the left knee, in the right shoulder-joint, and in the substance of the lungs. The external and internal iliac veins of the right side were in a sloughy state, as was also the entire of the mucous membrane from the tongue to the stomach.

This case, though it ended fatally, is extremely instructive, as the tetanic condition was at once removed by the amputation of the part which was the exciting cause of the malady. His dying of diffuse inflammation, twenty-seven days after the receipt of the injury, cannot in any manner do away with the fact that the patient recovered from the tetanic attack; no more than the death of Carroll last year, by cholera, can in any manner weaken the fact of his recovery from acute tetanus in 1841.

These are, therefore, the conclusions I come to, with regard to the treatment of this disease:—to endeavour, if possible, to combat it at its outset, and commence by removing the existing cause, either by excision, amputation, or division of the nerve leading to the part; to give stimulants, such as brandy, wine, and the tincture of the resin of Indian hemp, in doses of from ten to twenty drops every half hour, so as to produce a slight degree of cerebral excitement; to support the patient at the same time by giving beef-tea and eggs; to pay attention to the state of the bowels, and act upon them with croton oil or any other powerful purgative, as in this disease, as is well known, they are extremely torpid and sluggish; and to bring him under the influence of tobacco as rapidly as possible. These

are the principal means upon which we have to rely; but, at the same time, I must not omit to warn every practitioner against the use of opium, belladonna, and every other narcotic, which it has been the fashion to administer indiscriminately in every case of tetanus, both in hospital and in private practice, not so much with the view of curing the patient as of stupifying his intellect, so as to render his exit from this world less painful.

And now, before I conclude, let me add a few words concerning those individuals who, in consequence of some idiosyncrasy, cannot be subjected to the continued influence of tobacco without incurring extreme danger. Those possessing such an idiosyncrasy are easily distinguished, as a few minutes after the administration of the first dose symptoms of the most alarming nature will arise: the countenance will assume a deadly hue and a ghastly appearance, and the pulse at the wrist will become quivering and intermittent. I need scarcely say that in such a case the administration of tobacco should be at once stopped, ammonia applied to the patient's nostrils, cold water sprinkled on his face, and every means used for the excitement of cardiac action.

In these cases, after having discarded the use of tobacco, the main reliance is to be placed in vapour baths, which should be applied without removing the patient from his bed, and continued for a considerable time. The patient will invariably express himself as much relieved by them, and they generally diminish the rigidity of the muscles in a very considerable degree, at the same time that they sooth the patient and allay the spasms.

By adopting such a method of treatment as I have endeavoured to describe, we shall not, as I said before, cure *every* case of acute traumatic tetanus, but we shall certainly give the unfortunate sufferers a much better chance of recovery than by abandoning them to the old routine treatment of calomel, opium, and belladonna.

ART. V.—*Observations on “Imputed Poisoning.”* By G. HUGH KIDD, M. D., F.R. C. S. I.; Lecturer on Anatomy in the Dublin School of Medicine, Peter-street; Assistant Physician to the Coombe Lying-in Hospital.

IN a case which occurred in the County of Armagh, in the month of January last, the question of imputed poisoning was raised.

The circumstances, as reported in the public papers, are briefly these:—Mr. Bleazby, a gentleman of independent fortune, died, after an illness of short duration, on the 16th of October, 1849. After his death rumours arose that he had been poisoned; an inquest was called for; the body was raised on the 15th of December, 1849, and the stomach, liver, and kidneys were removed for examination. The body presented appearances which caused a suspicion that a stomach-pump had been introduced after death; and at the inquest a defence was attempted on the ground that the person had died from natural causes, and that poison had been maliciously injected into the stomach afterwards.

The principal medical witness was examined with reference to this, and his evidence, as reported in the Armagh Guardian newspaper, of February 4, 1850, is as follows:—“On 3rd January last, received two sealed jars containing, No. 1, a human stomach, and a portion of the small intestine; No. 2, a large portion of a liver and a kidney. The stomach was empty; one of the ligatures which had been attached to the orifices did not embrace the whole of the stomach, so that the contents might have escaped; on opening the stomach, which was found to be in a good state of preservation, the mucous membrane was found to be in a vascular condition, and softened in texture,—appearances which are generally met with in cases of poisoning with irritating substances.

“On scraping the membrane a very small tea-spoonful of

thick grumous matter was obtained, which, on being analyzed, was found to contain arsenic. About one-half the substance of the stomach was taken, after the removal of the mucous matter, and on analysis was found to contain arsenic. And deponent likewise succeeded in obtaining unequivocal evidence of the presence of arsenic in the kidney."

After describing the mode of analysis, which was by Reinsch's process, the report continues:

"From the appearance of arsenic in the stomach, kidney, and liver, deponent has no hesitation in stating, that, in his opinion, the death of the individual from whose body these parts were extracted was caused by arsenic.

"As a matter of opinion, the arsenic must have been received into the stomach before death. It is possible to inject arsenic into the stomach after death; but in that case it could not enter the liver or kidneys; it is only by absorption that it could reach these organs, and absorption ceases immediately after death."

At the inquest this opinion, so decidedly expressed, had great influence, and a verdict of murder was returned against the accused persons.

On reading the reports of the case, it struck me that this opinion was at variance with the established truths of physiology, and I instituted the following experiments to test its accuracy.

Experiment 1.—Having placed a cat under the influence of chloroform, I bled it to death, on 27th February, 1850. Twenty-four hours afterwards I opened the abdomen to expose the viscera, and then passed a tube down the œsophagus, and injected four ounces of Fowler's solution of arsenic into the stomach, some of which I passed on into the small intestines, and, having closed the wound, hung up the animal in the horizontal position. On the 29th of March, I re-opened the abdomen, and found the mesentery, where it was in contact with the intestine containing the arsenic, presenting several

yellow spots, which, on examination, proved to be produced by arsenic, and seemed analogous to the spots mentioned by Christison as having been observed in the human subject. The substance of the psoas muscles presented similar yellow stains. The liver, when examined by Marsh's process, yielded arsenic in large quantities.

Experiment 2.—Having obtained a rabbit on 29th March, I kept it without food till the following day, and then killed it by striking it on the neck. On the 1st of April I opened the abdomen, and, having passed a tube from the mouth, injected eight ounces of a solution of arsenic, ten grains to the ounce, into the stomach; then, closing the wound and, having tied a ligature tightly round the neck, I hung up the body by the hind legs.

On the 23rd of April I removed the liver, kidneys, heart, lungs, and brain for examination, after which the body was buried till the 27th of May, when I had it raised; I then removed the fore legs and muscles of the back.

The liver, kidneys, and heart gave unequivocal evidence of the presence of arsenic, and that in large quantity; the lungs were not examined; the brain did not contain any arsenic; from the muscles of the fore legs numerous spots of metallic arsenic were obtained; and the muscles of the back yielded it in still larger quantities. The stomach, which was quite empty when the animal was killed, contained a large quantity of dark green pultaceous matter; on removing this the mucous membrane was of a dark colour, as if stained by it; and in one place the mucous and muscular coats were completely removed, the peritoneal alone remaining perfect.

The presence of the arsenic in the heart and legs in this case removes the objection which might arise from the abdomen having been opened; a proceeding which I considered necessary, as in one animal a laceration of the stomach had occurred which obliged me to give up the experiment.

The several analyses were performed by Dr. Maxwell

Simpson, Lecturer on Chemistry in the Original School of Medicine, Peter-street, who kindly undertook them for me, and executed them with much care, adopting Marsh's process as the most accurate; having previously tested the materials used to prove their purity. The quantity of arsenic obtained in each instance was too great to admit of any doubt as to the source from which it came.

When the theory of absorption is attentively considered, it will be found that this process depends entirely on the physical properties of membrane, properties which it possesses in common with many inorganic substances.

"Until recently," says Müller, "the passage of matters into the blood was supposed to depend on a peculiar absorbing power of the veins. But it is now known that fluids may find their way into the blood of the capillaries, without the aid of this imaginary power of absorption; and from the capillaries they necessarily pass, first into the veins, the direction in which all the blood of the capillaries moves being from the arteries towards the veins and heart"(a).

Permeation of the tissues, under which term he includes endosmosis, he considers to be the primary phenomenon in this process, which, as it is exercised by dead animal tissues, as well as by living, he distinguishes from lymphatic absorption; a distinction, however, which is perhaps unnecessary, for even in the absorption of chyle from the intestinal canal, after the nutritious matters have been selected by a process of cell growth, and conveyed into the interior of the villi, they have to permeate the coats of the lacteals, which commence by closed extremities. Magendie says that, "beyond a doubt, all the blood-vessels, arterial and venous, dead or living, great or small, present in their parietes a mechanical property adequate to render a perfect explanation of the principal phenomena of absorption." This he calls "imbibition"(b). The fact

(a) Müller's Physiology, by Baly, second edition, vol. i. p. 259.

(b) Magendie's Physiology, by Milligan, second edition, p. 357.

that the contents of the gall-bladder pass through its coats, and colour the surrounding parts, is well known; and it is our every day experience in the dissecting-room, that when the blood-vessels have been filled with Sir William Burnett's preservative fluid, it passes out of them in a few hours, thus permitting them to be filled with the usual injection.

The experiments that I have now detailed show that fluids may permeate the tissues much more extensively than Müller or Magendie have stated. This may take place by two distinct processes,—endosmosis, and simple permeation of the tissues, the latter analogous to that by which fluids pass through filtering paper.

By the first of these, endosmosis, when two miscible fluids having different properties are separated from one another by a porous diaphragm, such as marble, caoutchouc, bladder, or membrane of any description, animal or vegetable, the fluids will become thoroughly mixed: thus, suppose we fill a bladder with milk, and place it in a vessel of water, a current of water will pass through the bladder into the milk—"endosmosis," and a current of milk will pass out of the bladder to the water—"exosmosis," until the two fluids are so well mixed as to have acquired equal densities. The inward current may be greater than the outward, or *vice versa*, depending on the nature of the fluids, and of the membrane separating them, and causing an increase in the volume of one fluid and decrease in the other. In the case of the milk, if the bladder be filled and well tied, it will soon burst; so powerful is the inward current.

This is the endosmosis of Dutrochet, so far as it is necessary for our present purpose to explain it; and it is obvious that the stomach, filled with fluid, and surrounded by vessels and organs containing a dissimilar fluid, serum or blood, is properly circumstanced for carrying it on.

If the second process, or the simple permeation of the tissues, the imbibition of Magendie, exist along with the first,

the effects of the permeation are masked by the endosmosis, until the two fluids are mixed, when the decrease of volume produced by the permeation becomes very evident, the endosmosis having ceased.

These principles may be illustrated by the following experiments :

1st. Having constructed two endosmometers by cutting the bottoms out of two phials of equal diameters, tying them over with bladder, and fitting graduated tubes, by means of cork, to their necks, I filled No. 1 with Fowler's solution of arsenic, and immersed it in a basin containing serum, and No. 2 with serum, and placed it in Fowler's solution. The specific gravity of the serum was 1031; that of the solution of arsenic, 1030.

The following registries mark the increase and decrease of volume in the two instruments. The apparatus was set to work at 10 $\frac{1}{2}$ o'clock, P. M. The first registries indicate the height of the fluid in the tubes at this time :

No. 1.			No. 2.		
FOWLER'S SOLUTION IN ENDOSMOMETER.			SERUM IN ENDOSMOMETER.		
		Inches.			Inches.
1st day, 10 $\frac{1}{2}$, P. M.	.	5 $\frac{4}{10}$	1st day, 10 $\frac{1}{2}$, P. M.	.	5
Do. 12, P. M.	.	7 $\frac{2}{10}$	Do. 12, P. M.	.	3 $\frac{2}{10}$
2nd day, 8, A. M.	.	10 $\frac{1}{10}$	2nd day, 8, A. M.	.	3 $\frac{1}{10}$
Do. 2, P. M.	.	10 $\frac{7}{10}$	Do. 2, P. M.	.	3 $\frac{1}{10}$
Do. 7 $\frac{1}{2}$, P. M.	.	10 $\frac{7}{10}$	Do. 7 $\frac{1}{2}$, P. M.	.	3 $\frac{1}{10}$
Do. 11, P. M.	.	10 $\frac{2}{10}$	Do. 11, P. M.	.	3 $\frac{1}{10}$
3rd day, 9, A. M.	.	9 $\frac{4}{10}$	3rd day, 9, A. M.	.	3 $\frac{4}{10}$
Do. 12, P. M.	.	7 $\frac{7}{10}$	Do. 12, P. M.	.	3 $\frac{6}{10}$
4th day, 7, A. M.	.	6 $\frac{8}{10}$	4th day, 7, A. M.	.	3 $\frac{7}{10}$
Do. 1, P. M.	.	6	Do. 1, P. M.	.	3 $\frac{8}{10}$
5th day, 8, A. M.	.	3 $\frac{7}{10}$	5th day, 8, A. M.	.	3 $\frac{8}{10}$
Do. 11, P. M.	.	2 $\frac{4}{10}$	Do. 11, P. M.	.	3 $\frac{8}{10}$
6th day, 10, A. M.	.	1 $\frac{2}{10}$	6th day, 10, A. M.	.	3 $\frac{6}{10}$
			Do. 11, P. M.	.	3 $\frac{4}{10}$
			7th day, 9, A. M.	.	3 $\frac{1}{10}$

The results of this experiment are remarkable, in that the greater current is from the heavier to the lighter fluid, contrary to what is usually observed. When alcohol and water are separated by bladder, the greater current is from the heavier to the lighter fluid. To ascertain if the small quantity of tincture of lavender in Fowler's solution, or the potash, which has also been supposed to interfere, influenced the result of the experiment, I varied it by using a saturated solution of arsenic in distilled water, and a solution—ten grains to the ounce—in liquor potassæ, using endosmometers constructed with a portion of fresh human stomach, and filling them with blood kept fluid with nitrate of potash, in the proportion of half a drachm to eight ounces. The results were similar,—the clear solutions becoming red, and the blood, on examination, proving to be strongly impregnated with arsenic.

It will be observed that in the instrument, No. 1, the fluid reached its maximum height at 2 o'clock, P. M., of the second day; it then remained stationary for some time, after which it gradually fell in the tube. That was because the fluids had become mixed, and permeation was becoming evident.

The simple permeation of the tissues, by fluids, may be rendered evident by Dutrochet's experiment of putting a fluid into an endosmometer, and immersing the membrane in a similar fluid, so as to keep its surface moistened.

Experiment 2.—Into an endosmometer constructed with human stomach I put some Fowler's solution, and immersed it in a basin containing a similar solution. At the commencement of the experiment the fluid stood in the tube at two and a quarter inches, in one hour it had fallen to three-eighths of an inch.

This is analogous to filtration, and is due to the hydrostatic pressure. That it may take place along with the endosmosis is evident from the registries of the tube No. 2, in the first experiment.

In this case the exosmotic current was greater than the en-

dosmotic; but in addition to the exosmotic current, a portion of the serum seems to have passed through by its own gravity; consequently we find the fluid again rising in the tube, until thorough mixture is accomplished, when permeation again becomes evident and the fluid sinks.

The circulation, by renewing the fluids around the stomach, will, of course, modify the results in a living animal; but in a dead animal we may suppose that, when a solution of arsenic is injected into the stomach, endosmosis is established, the volume of fluid in the stomach is increased, and the surrounding parts become impregnated with the solution. After some time endosmosis ceases, and the fluid permeates into the surrounding parts by its own gravity. The stomach of the rabbit had no fluid in it when opened, though eight ounces had been injected into it; the heart contained more arsenic than the kidneys, as the animal had been suspended by its hind legs; and were it not for the ligature which was tied tightly round the neck, and the manner in which the animal was killed, we might have found arsenic in the brain, as it was in the fore legs.

Writers on medical jurisprudence have dwelt not at all, or very briefly, on the subject of imputed poisoning, at least on this form of the crime. Taylor, in his work on medical jurisprudence, does not allude to it; but in his more recently published work, "*On Poisons*," the following passage occurs incidentally, at page 360: "The detection of arsenic in the tissues, makes it clear that the poison must have been introduced during life, and that it has most probably caused death; its detection merely in the *contents* of the stomach or intestines does not give this absolute proof."

Christison, in his *Treatise on Poisons*, says that he has never met with a well authenticated case of such ingenious atrocity; but that it must be admitted to be quite possible; "and it may be necessary to determine by an accurate account of the symptoms, or by the morbid appearances, or by both together,

whether the poison was introduced into the body before or after death"(a). This seems to be the only course likely to lead to a correct diagnosis.

But I find that at the trial of Mrs. Cochran in Edinburgh, in January, 1844, for poisoning her husband, Dr. Christison was examined: he deposed that he had detected arsenic in the substance of the liver and stomach, and after denying that it is a natural constituent of the human body, is reported to have said, "Arsenic could only have come into the liver by absorption." The case is fully reported in the Edinburgh and London Monthly Journal for February, 1844. The question of imputed poisoning was not involved.

Orfila has directed his attention to a mode of investigation similar to that recommended by Christison. He instituted a series of experiments on the subject, in consequence of a case which he met with in the state papers of Stockholm. These experiments consisted of observations on the effects of poisons introduced into the rectum before and after death, but they are not calculated to shed much light on a case of the nature of that now under consideration.

In the case of Mr. Bleazby, the symptoms, as detailed at the inquest, by the gentleman who had been called into consultation, are by no means strongly indicative of poisoning. He was informed that the deceased had had a similar attack two years before, from which he narrowly escaped with his life; and he describes him as having been, during the four days' illness that preceded his death, "occasionally better and worse; . . . he appeared to labour under a bilious vomiting; . . . he complained of debility and sickness, and was strongly impressed with the idea that he should not recover; he had no pain nor tenderness on pressure of the abdomen, nor purging. . . . His opinion with regard to his death is, that it was the effect of exhaustion from bilious vomiting occurring in a

(a) On Poisons, fourth edition, 1845, p. 61, *et passim*.

broken down and shattered constitution. The symptoms could be caused by poison, and if poison were found in the stomach, he must turn round and say the symptoms were produced by poison. . . . Saw the matter vomited, which was purely bilious, and the evacuations were of a similar character; did not examine them minutely or chemically, as he had not the least suspicion of poisoning."

The morbid appearances, as detailed in the evidence already quoted, were not more characteristic, being merely redness and softening of the mucous membrane, both of which may have been produced by natural causes, or may have occurred after death. Orfila's fifth deduction from his experiments is as follows: "Lastly, they [poisons applied after death] are capable, moreover, of producing inflammatory phenomena, when applied an hour or two after death; but that it is sufficient, in order to establish a correct conclusion, to attend to the consideration we have just established,"—considerations, however, which do not apply to the present case.

Since writing these observations, I find that Orfila has entered into the question in a late paper on poisoning, the same in which he treats of poisons in the tissues. It is remarkable that, although this paper has been very extensively noticed in the Journals, and by subsequent writers, the part having reference to the question of imputed poisoning has been passed over, some even of the latest writers expressing opinions in opposition to the facts ascertained by him. He gives a series of propositions, as conclusions that he deduces from his experiments(a).

Speaking of arsenic, his eighteenth conclusion runs thus: "That the presence of arsenious acid in the viscera of the body of an individual who had not been submitted to arsenical treatment . . . proves in an incontestible manner that there has been poisoning, *unless the poisoning may have been intro-*

(a) Orfila's Toxicology, by Waller, vol. ii. p. 547.

duced into the digestive canal after death. (See my Memoir on Copper)"(a).

In the paper on copper here referred to, it is shown, that the same laws apply to arsenic, and other metallic poisons that have been established by him with respect to copper; and in the sixth and eighth conclusions his views are stated, and a mode of diagnosis proposed, as follows: "Sixth. That, independently of the portion of the salts of copper absorbed during life, and which is found unequally distributed through *all the tissues*, many of the organs, and especially the abdominal viscera, if the salts have been introduced into the digestive canal, contain more, chiefly on that part of their surface which was in contact with this canal, a portion of the salts having got into them by imbibition after death, of which the quantity varies according to the period at which the bodies have been opened; and consequently the copper found in the examination of these organs [*que dès-lors le cuivre, retiré en dernier resultat de ces organes*] comes both from the salt which had been absorbed during life, and from that which had traversed the tissues after death"(b).

The eighth conclusion states the matter more fully, and proposes a mode of diagnosis :

"Eighth. That it is possible in most cases to determine if the salts of copper, and other poisons found in the viscera in medico-legal researches, have been introduced into the animal economy *during life* or *after death*, either by having regard to the symptoms which preceded death, and to the lesions of tissue found on opening the body, or by the aid of chemical experiments tried on some organ distant from the digestive canal, rather than on one close to it or on different parts of the same viscus [*ou sur telle autre partie du même viscère plutôt que sur telle autre*]. But of a truth in some very rare cases, as

(a) *Mémoires de l'Académie Royale de Médecine*, t. viii. p. 421, 1840.

(b) *Ibidem*, p. 564.

after a long inhumation, or when there may not remain more than the *detritus* of the viscera, the problem before us is less easily resolved, if the depositions taken by the magistrates do not assist the examiner in establishing *positively* that the poison had not been introduced into the digestive canal after death. The judicial annals, moreover, do not offer any example of an accusation of poisoning, in which crime has gone to the length of injecting a poisonous substance into the digestive canal of a dead body, with the view of making an accusation"(a).

These conclusions are founded on two experiments: one consisted in placing a fore-arm, after the integuments had been removed, in a solution of copper, and observing the extent to which the tissues were discoloured. Of the other, the following may be taken as a condensed sketch: Thirty-two grammes of sulphate of copper dissolved in 120 grammes of water were injected into the stomach of a "cold human body." Ten days afterwards putrefaction was far advanced; the stomach contained a large quantity of the solution; the anterior and posterior walls were blue; but the colour was more intense at the splenic end. The whole of the intestinal canal presented the natural colour and consistence, except points which had been in contact with the stomach, which were blue. The inferior surface of the liver, the left side of the diaphragm on both surfaces, the anterior part of the spleen and of the left kidney, were coloured blue, and so were the lower portion of the left lung, and of a false membrane which covered the pleura of the same side, and which had acquired a hardness almost cartilaginous. The *other viscera* and all the other portions of the liver, of the spleen, of the kidney, of the left lung, and of the diaphragm, also the muscles of the limbs, presented the natural colour, without the least taint of blue.

(a) It is mentioned in a previous part of the *Mémoire* that the case alluded to in his work on Toxicology, as having occurred in Stockholm, is of doubtful authority.

By chemical examination, the presence of copper was easily discovered in all the parts coloured blue. The liver yielded copper where it was in contact with the stomach, the remainder contained none. The right lung, the brain, and the muscles of the legs did not furnish any.

Orfila considers the copper to have been taken up by the tissues by the process of imbibition merely, and that the position of the body will influence its distribution, as it no doubt will. But we have already seen that it passed to the kidneys and parts above the level of the stomach in the rabbit,—a fact which is in accordance with the laws of endosmosis.

Though, in analyzing the different parts of the rabbit, attention was not directed to the point, yet there seems sufficient ground to say, that Orfila's proposal to found a diagnosis on a chemical examination cannot be unhesitatingly accepted. Indeed we may with much reason infer, from the known laws of endosmosis, that, if sufficient time were afforded, a solution of arsenic would diffuse itself equally throughout the whole body.

The following passage from Carpenter's Physiology seems to countenance Orfila's theory, that fluids will only pass into the *contiguous parts of organs* after death. Speaking of endosmosis he says: "We may reasonably inquire how far the passage of fluid through membranes may be explained on this principle. It has been maintained that this is a purely vital change, because it does not occur except during the continuance of life. But it may be alleged, on the other side, that if we regard the other vital actions as furnishing the *conditions*, endosmosis, the absorption of fluid may itself be considered as only an instance of the phenomenon; and there will be no difficulty, therefore, in understanding why the process should cease with life.

"It is easy to explain on this theory why absorption should take place so much more rapidly and energetically during life than after death; since the quantity of fluid which first pene-

trates the membrane is conveyed no further into the system, unless there is a demand for it; and it, therefore, saturates the tissues with which it is in contact, and prevents the admission of more"(a).

The following experiment will show, however, that this statement is founded on a misapprehension of the laws of endosmosis. The apparatus employed was modified from one invented by Liebig to illustrate the effects of transpiration. It consists of a series of tubes tied over at their ends with bladder, placed one above the other, and accurately joined by slips of bladder or caoutchouc, care being taken to exclude air bubbles. It may be conveniently formed by using tubes of two different diameters, and fitting them one into another.

I constructed such an instrument with four tubes, each an inch and a half long, and a quarter or three-eighths of an inch in diameter; closed at one end with bladder, and filled with brine. The end of the lowest tube was immersed in water coloured with sulphate of indigo, and the blue fluid could be seen to ascend gradually and colour each stratum of brine in succession; the water first passing into one cell and diluting the brine there, so as to cause endosmosis to take place with the second cell, which again increases the density of the fluid of the first cell by its exosmotic current, causing a further endosmosis to take place into it from the coloured water, and so on until the fluids become equally mixed.

In the animal body, the parts first impregnated with the solution of arsenic are analogous to the first cell in this apparatus. Endosmosis then occurs between these and the contiguous parts, and so on until the whole body becomes impregnated with the metallic solution.

(a) Carpenter's *General and Comparative Physiology*, 2nd edit., pp. 226-7.

ART. VI.—*On Inflammatory and other Affections of the Tongue.*

By CHRISTOPHER FLEMING, M. D., F. R. C. S. I., Surgeon to the Netterville Charitable Institution, &c.

WHEN we reflect on the complicated and continuous character of the functions of the tongue in its normal state in the animal economy, we cannot be surprised at, to say the least, the distressing effects produced by many, if not by all its varied diseases. From their simplest to their most aggravated form, they are productive of much anxiety and annoyance to the patient, interfering, as they so often do, with his ordinary social comforts. This is, however, a very limited view to take of a subject, the importance of which has been verified by the many and valuable essays that have been written respecting it,—the diseases to which this organ is liable being numerous, and of a nature often extremely obscure, and demanding, on the part of the surgeon, the greatest circumspection as to accuracy in diagnosis. It is with a view to the attainment of this latter object, that I am disposed to make a few practical remarks regarding some of the more manageable and controllable affections of the organ; and the conviction of the possible value of such remarks may be somewhat enhanced by the fact, that no original communication on this subject has appeared in either the present or in the former series of this Journal.

The classification of diseases of the tongue, as adopted by the more ancient authors, will not be found to differ essentially from that of the modern, when its details are investigated; in fact, a new nomenclature on the part of the latter, constitutes, perhaps, the principal difference. Both comprise inflammatory affections, common or specific in their nature, with their ordinary terminations: and, what may be termed adventitious deposits, innocent or malignant, developing corresponding growths or alterations in structure. This super-

ficial summary will, in the short communication I contemplate, answer as a sort of prelude to the consideration of such of the affections as I wish to direct attention to.

And first, as to the inflammatory diseases and their results:—Inflammatory attacks of the tongue, of an acute and, we may add, of a chronic character, are, as is generally admitted, seldom or never idiopathic in their nature(*a*). It should, however, be borne in mind, that a sudden swelling may seize the tongue, rapidly advancing to a most alarming engorgement, and taking the practitioner by surprise, if he is not on the alert quickly to combat it. It springs up without the slightest notice: men, and young men most frequently, are, as far as I have seen, the subjects of it; and there is no apparent evidence of any previous derangement of health(*b*). They awake in the night, with a feeling of thickness in swallowing, and dryness in the fauces, and the special symptoms come on within an inconceivably short space of time. I have imagined that such affections have somewhat of an endemic or epidemic character, as I have met with cases of it in a special district.

Last winter I had three cases of this kind in the district

(*a*) Dr. Graves has published some cases in which it was so, in the edition of his *Clinical Lectures* edited by Dr. Neligan, vol. ii. p. 196. One of them occurred in his own, and another in Dr. Neligan's practice; in his own case only one-half of the tongue was affected. He has appended some remarks on the disease which are well worth perusal. I may add, that the disposition in affections of the tongue to engage only one-half of the organ is, in practice, constant and remarkable. I know of none of the diseases to which it is liable in which such peculiarity may not exist; and indeed I would say it is more the rule than the exception at the onset of the disease. Even as regards the aspects of the tongue in disease (a most interesting department of this subject), similar conditions will be found not unfrequently.

(*b*) I have some recollection of this peculiar engorgement of the tongue occurring in a person aged beyond eighty years. After a fit of anger, and in half an hour after sudden pain had seized one side of the organ, the enlargement proceeded to such a size as to cause protrusion of the tongue between the teeth, and to impede respiration. The individual recovered under very active local treatment.

of the Netterville Charitable Institution; and I am aware that an officer in one of the neighbouring barracks was similarly affected about the same period. One of the above cases, in which the local characters of the disease were well marked, I sent to Steevens' Hospital. At its commencement it is a purely local affection, not accompanied by the least fever, and yielding to treatment as rapidly as it had supervened. It is questionable, indeed, whether it is more than an active hyperemia of the organ, arising from some unaccountable local determination. Copious leeching, both locally and under the chin, are most beneficial. In dispensary and other practice, where leeches cannot be had, free incisions into the seat of the swelling, if engaging a portion of the organ, or on either side of the median line, if engaging the whole, at once empty the vessels, and the swelling subsides before actual inflammation or constitutional symptoms have had time to light up. Of course other obvious adjuncts, both local and general, are required. I am disposed to question that this special affection is a true glossitis; it is, perhaps, the first step to it, and unquestionably runs into it, if not quickly checked, and especially if fever be allowed to come on. True glossitis is preceded and accompanied by fever, as was the fact in the cases of Dr. Graves already alluded to. The former affection appears, as I have already remarked, to be a purely local and sudden engorgement of the vessels of the tongue.

Inflammatory affections of the tongue, however, acute and chronic in their progress, and symptomatic in their character, are by no means of unfrequent occurrence. As attendants on injury, whether the result of accident or of surgical operation, they are often most acute. I have never seen a more severe case of this kind than that of a lady, who, in addition to other injuries from a burn, had her mouth and tongue absolutely charred by the hot air of the bed-room where the fire took place. As an occasional sequela of fever in this country, glossitis occurs in a somewhat more chronic form; I have met with such

in the epidemics of 1837 and 1847. It occurs also in variola, in scarlatina, and in erysipelas of the head, when that inflammation suddenly seizes on the fauces. In these special forms of cutaneous disease, this affection is very likely to escape observation, as many of its characteristic features, described by authors, are absent. Thus, there is often no prolapsus of the organ, from the very limited power of moving the jaws which exists. The view also of the tongue is indistinct for the same reason ; yet it fills the mouth, completely blocking up the fauces. Though swollen, it is less tense, less discoloured, and less hard. It is, in fact, a subacute form of the disease, and of a character to be expected in the broken-down constitutions in which it occurs. Its treatment also is necessarily different. Local bleeding is required, and to a considerable amount in some cases ; but it must be kept within certain limits, general depletory measures avoided, and mild stimulants, wine, and soft unirritating food must be given. They are cases in which two opposite modes of treatment must go hand in hand ; but such is not the case in acute glossitis, in which half measures will not answer, but the stringent antiphlogistic regimen laid down by authors must be enforced in all its details.

During the late epidemic of variola, not a few cases presented themselves where this variety of glossitis (which may be termed diffuse glossitis) appeared to me to form a very important item in the catalogue of symptoms which manifested themselves about the period of the maturing or secondary fever. Under such circumstances, both children and adults fell victims in no limited numbers ; and, in estimating the cause of death, I feel satisfied that, when the morbid appearances about the glottis are not sufficiently explanatory in suddenly fatal cases, the difficulty may be somewhat solved by taking into account the mechanical effects of the condition of the tongue to which I allude. It will be often found distended with fluid similar to that surrounding the epiglottis and glottis, and that

to an amount which, in its limited movements in the antero-posterior direction, must influence the opening of the glottis. That such a condition may escape detection in the ordinary mode of removal and of examination of morbid specimens of the kind, is obvious, and that a knowledge of it may lead to practical good is for future consideration. I am rather disposed to think that it may, but am yet doubtful as to how, not having tested it sufficiently. The subject, however, appears to me to be worthy of investigation. In the form of erysipelas I have alluded to, in many cases of scarlatina, and in variola, death from œdema of the glottis cannot, at all events, be for one moment questioned, and the inefficiency of remedial means cannot be denied(a).

Amongst the inflammatory affections of the tongue, there is one which appears to me to be deserving of special notice, as well from its comparatively rare occurrence, as from the alarming symptoms attendant upon it, compromising the life of the sufferer, or entailing on him a prolonged, painful, and distressing illness, should its nature not be early ascertained. I allude to an *inflammation, circumscribed or diffused, originating in the loose areolar tissue between the genio-hyo-glossi muscles*, and first manifesting itself by a train of symptoms identical with those of ordinary glossitis, but soon characterized by peculiar features. This affection I have met with in adults, men and women; on one or two occasions I have seen it in a

(a) In these severe and unpromising cases I have long considered the propriety of making a free and deep incision under the chin in the site of the swollen and distended integuments. Independently of the loss of blood (which cannot be from vessels of any considerable caliber in this situation, and which can be always controlled as the surgeon may wish), the discharge of serous fluid, often assuming a purulent character, and infiltrating the areolar tissues, both superficial and deep-seated, as a large porous sponge, is enormous. The success of such a mode of treatment in other and similar inflammations is most striking in many instances; for example, on the dorsum of the foot, in the scrotum, &c. Nay more, is not the character of the inflammation, if properly managed in the subsequent treatment, absolutely improved by it?

comparatively mild form in the child, but, probably, not engaging the organ primarily. It is an isolated affection, and, as far as I could ascertain, idiopathic. The first symptom is that of uneasiness in the movements of the tongue, and the sensation as if there was a lump or ball at its base, which creates the desire for frequent acts of deglutition. In its earliest stage, the motions of the jaw are painful, and their free separation much curtailed. These local symptoms are soon accompanied by the constitutional evidences of ordinary symptomatic fever, usually of the sthenic type, yet not unfrequently assuming the typhoid or asthenic character. Another train of local symptoms in the vicinity of the organ also supervenes. There is a fulness under the chin, between it and the os hyoides, giving the appearance of what is termed a double chin. Pressure here, especially near the os hyoides, is very painful, and this point of pressure often presents the ordinary dimple of œdema in the integuments, which, in other respects, are healthy looking. Should the case advance without the interference of the surgeon, the countenance assumes a peculiar aspect. Articulation and deglutition are more and more interfered with, and at last almost totally obstructed; the voice is guttural, and the saliva dribbles over the chin. The integuments now become more engaged, and gradually assume a diffused red appearance, circumscribed or otherwise, according to the stamp of the inflammation. The swelling in some instances spreads laterally, so as to occupy the whole fore-part of the throat, and in some rare cases an attempt at pointing is manifest; and in others, still more rare, an absolute gangrene of the integuments takes place, as was witnessed in a case I sent to Steevens' Hospital during the past winter, the only case of this kind I can bring to my recollection as having ever witnessed. These local phenomena, however, are, after all, severe as they are, the least important for our consideration, as other symptoms place the life of the patient in the greatest danger. Quite independently of the prostration necessarily attendant on the fever, on the impeded respiration,

and on the loss of power of deglutition, the risk from mechanical pressure on the epiglottis is seriously to be apprehended; suppuration advances, and, whether it is circumscribed or diffuse, it is towards the base of the tongue that it most freely burrows. It absolutely dissects its extrinsic muscles, and destroys their functions, ultimately injuring the periosteum and laying bare the inside of the inferior maxilla in the vicinity of their attachments. I need not add, that should such inflammation be of the diffuse character, the accompanying fever will probably destroy the patient, long before the local symptoms shall have reached their acme.

Such really is not an exaggerated picture of cases of this peculiar affection of the tongue, if allowed to take its course uncontrolled. The seat of it is in the loose areolar tissue, which exists in the lower part of the central plane of the tongue between its muscles. It is in this site the inflammation first establishes itself, often unaccountably, and it is from this locality it insidiously advances, always accompanied, more or less, by constitutional disturbance, influenced in its character by ordinary circumstances. I might instance cases illustrative of it, but as opportunities must have presented themselves to most, of witnessing such in hospital and in private practice, I should hope the previous outline will suffice, and that the treatment of such train of symptoms will be obvious to the reflecting surgeon, assuming that he is accurate in his diagnosis. Such diagnosis cannot be difficult, if the prominent features of the case are borne in mind. The sensation of fulness at the base of the tongue, the tenderness on pressing its dorsum, the gradually limited motion of the jaws, the fulness and tenderness under the chin, the increase of that fulness, ultimately and rapidly implicating the integuments to a greater or less extent, and all these local symptoms, combined with severe constitutional disturbance, can leave little doubt on his mind as to the nature of the case, when he proceeds to investigate it.

The treatment suited to this affection is simple, but must

be decided. Should it be met with in the first stage, ordinary antiphlogistic remedies may be adopted; amongst the local, great benefit will be derived from free leeching under the chin; but should the symptoms not yield rapidly, or should the surgeon see the case in a more advanced stage, no palliative means can compete with that of a free incision in the median line, through the integuments and fasciæ under the chin, and fairly through the raphe of those muscles which delay the advancement of the suppurating process. Here free incisions must be made, and the passage of the finger through the wound, reaching to a considerable depth, will discover the muscles flabby and detached from each other, and the interstices filled with purulent matter, occasionally most fetid in its character. The after treatment and progress of the case towards cure must be familiar to all conversant with those deep-seated and sub-fascial inflammations not unfrequently occurring about the angles of the jaws, and the corresponding sides of the neck, as the sequelæ of various epidemics. Should the periosteum have been engaged, and the bone exposed, a proportionate delay must take place in the reparative process, and more than probably exfoliation will occur. Other details with reference to this affection of the tongue might be noted; to have considered it, even so far, may appear to many to be unnecessary; but the importance of the disease warrants it, the more particularly as I am not aware that any previous description of it exists. It is a most painful affection, and, proportioned to the character of the inflammation, is decidedly accompanied by an amount of danger, and that danger often instantaneous. Much more might be said respecting inflammatory affections engaging this important organ, both superficial and deep-seated, and so implicating merely its mucous structure or its proper parenchyma. The appearance and effects of such, however, are familiar to all surgeons, and present themselves under various aspects, influenced in their progress and terminations by their specific cause. They are referable to causes so palpably local in some instances, and in others are

accompanied by a train of constitutional symptoms so characteristic, that it would argue much of oversight on the part of the surgeon to overlook them; yet at times it is surprising how inapposite his diagnosis is.

As somewhat appertaining to this part of the subject, I may remark, that the fringes of mucous membrane which exist on each side of the tongue, and in which all the outlets of the sublingual glands exist, are sometimes larger than is usual, and in dyspeptic hypochondriacs are often the source of very great distress, from an impression on their minds of their malignant tendency, and their anxiety for the surgeon to remove them. I have known excellent surgeons to use various caustic applications to them, whereby they are decidedly increased in size, and rendered more turgid and sensitive; and in one case a consultation was actually summoned, so great was the surprise as to the assertion of their innocent nature. I purposely visited the subject of this case lately, and more than four years have elapsed without the slightest inconvenience, or indeed recollection of any; so completely had all symptoms subsided under treatment having for its object the improvement of the general health, to the exclusion of any local means. In dyspeptic individuals, in habitual smokers, and even in those whose secretion of saliva is inordinate, these folds will be found more or less turgid than natural, and occasionally attract a delusive anxiety on the part of the subjects of them. The aspect of the whole mucous membrane of the mouth and fauces, and the similarity of condition of each fold, at once decide the practitioner as to their innocent character, and point out that treatment upon which relief depends. I should not have deemed it requisite to notice them, but for the facts I have mentioned. They may be legitimately classed amongst those affections of the tongue and its appendages referable to inflammatory action.

Cases are occasionally met, where the tongue is studded

with tumours, apparently developed in its substance, and gradually extending towards its upper or lateral surface, or both. These tumours grow imperceptibly and acquire some size before they attract attention. Of this the following cases are examples:

CASE I.—M. D., a married woman, aged about thirty years, applied to me complaining of all those sensations attendant on diseases of the mouth,—painful deglutition, rendered more so by any stimulating or solid food, and a feeling on the tongue as if it was blistered. Her mouth was always filled with saliva, often distressingly and profusely, especially during sleep; her articulation was painful and thick, and her health was breaking down, as well from this ailment as from the mental anxiety attendant on its obstinate resistance to treatment. Various gargles had been recommended, and various remedies used, without benefit; and she was pallid, anxious-looking, and attenuated. On examining the mouth, the tongue at its apex and extending an inch or so towards the dorsum, was full, irregularly swollen, and the mucous membrane abraded in small patches, both on its upper and under aspect. Some of these patches were clean and raw-looking, while others were covered with a whitish, tenacious substance. On touching them with the finger, tumours about the size of ordinary garden peas could be felt, corresponding with each abrasion; others, again, were to be found imbedded in the substance of the tongue. No other morbid lesions could be detected, and no ground existed for the slightest suspicion as to syphilitic taint.

CASE II.—My friend Mr. Fairtlough sent me the following case, with a short note of its history previous to my seeing it.

Thomas Hayden, aged 35, an ostler, dates the affection of the tongue, under which he labours, to April, 1849. It then commenced in the form of a blister, and he was disposed to attribute it to smoking. He had medical advice from a practitioner in his neighbourhood in the country, by which he was temporarily relieved; after four or five months he came to town,

the disease in the interim having gradually advanced to its present stage. He is a married man, and has healthy children. About four years back he had gonorrhœa, but he never had any venereal sore, excoriation, or bubo. His health is good, and he is free from any additional ailment.

When the man presented himself to me in the month of August, he stated that his tongue was his sole complaint, that he felt it full and too large for his mouth, that its motions were painful and stiff, and its several functions impaired. He is obliged to use fluid or soft nutriment, and to avoid anything stimulating. He is much annoyed with the profuse secretion of saliva, and has occasional lancinating severe pains in the ears, and along the back of the neck, darting towards the temples. He has no disagreeable discharge from the mouth, and is free from much pain if he avoids any local irritation. On questioning him closely as to the mode in which this disease commenced, he stated that he first felt a tumour in the tongue near its centre, about the size of a small marble; that a blister formed on its surface; that it ultimately ulcerated, and that a succession of these were superadded. The aspect of the disease was very formidable; the organ was generally hypertrophied, its central portion occupied by a deep ulcerated cleft, extending about an inch and a half in its longitudinal axis, and this cleft more than half an inch in depth, and branching off into irregular fissures on either side. The edges of the ulcerations were rugged and hard, and the surface of a dirty white colour. The intervening portions of the tongue were of a fiery red hue, extremely tender to the touch, and almost devoid of any appearance of papillæ; on compressing the tongue between the fingers, isolated tumours of various sizes, from that of a pea to that of a horse-bean, could be distinctly felt; and both on its upper and under surfaces the epithelium in the site of these tumours was abraded where ulceration did not exist. There was no evidence of any other lesion in the neighbourhood. The aspect of the man is as healthy as could be expected from the description of food to which he

was necessarily limited, and he found himself fully equal to his work.

The local treatment used was the occasional application of nitrate of copper, alternately with oxymel æruginis; and the constitutional remedies employed were blue pill, hemlock, and iodine, in combination with potash and preparations of iron. The improvement in the ulcer, from the application of the nitrate of copper, was rapid, and that before any effect could be calculated on from the other remedies. The cure, at one period apparently effectual, has since been retarded by returns of ulceration at irregular points of the cicatrices, but these were immediately checked by the nitrate of copper, and, I have no doubt, will ultimately yield to a persistence in the constitutional treatment suited to cases of the kind.

CASE III.—This case was under the care of Dr. M'Cready, and its progress noted by him; I took the following memorandum of it whilst under treatment.

P. G., aged 22, unmarried, a teacher in one of the National Schools, applied in March, 1850, with a disease of the tongue, which rendered his articulation so thick and so indistinct as to cause him to dread the loss of his situation. To particularize his prominent symptoms would be in reality little more than a recapitulation of those noted in the last case. The disease commenced about two months previously, in the shape of small kernels, as he termed them, in the substance of the tongue. These became identified with the mucous membrane, which was abraded over some, and ulcerated over others, and they subsequently assumed their present character; the portion of the tongue in their interstices becoming swollen and painful. He had always enjoyed excellent health, and his general appearance was indicative of it. He had never been exposed to venereal, and was free from any other local or general complaint. The only discernible lesion was that in the tongue. The left half of the tongue is hypertrophied, so as to project beyond the apex on that side; about its centre, approaching the median line, is a deep ulcerated cleft, with

irregular edges, a foul surface, of a dirty whitish colour, with the sides firm and solid. The substance of the tongue around is full and swollen, and of a bluish pink colour. Its whole aspect is that of a formidable and painful disease, yet the latter character was comparatively absent. On compressing the tongue, small, solid, and fixed tumours were to be felt deeply imbedded in it; and on looking more accurately at both the dorsum and under surface, the epithelium could be seen abraded in one spot, the mucous membrane ulcerated in another, and in a third a small ulcerated slit, through which a probe entered and made its appearance in the cleft at the top. Each of these spots, when pressed on, gave the sensation of a hard pea, and they were similar in all respects to those mentioned above. I touched the ulcerated spots with nitrate of copper, directed in the intervals a borax wash, and put the man on iodide of iron and hemlock. This occurred on the 25th of March. I did not see him again until the 13th of April, when I find the following memorandum in my note-book:—"Improvement most striking and most rapid. Nitrate of copper acted almost magically, and from merely one application; the benefit of the iodide of iron and hemlock most marked; he has taken of each about one drachm. The tubercles which were in progress have diminished in size and in consistence; and the seats of ulceration have in part absolutely healed, leaving their cicatrices smooth and the adjoining structure of the tongue much softened and less irregular." On the 11th of May I find it noted, that the progress of the case was equally favourable, and all ostensible marks of the disease removed, under the same general remedies, with little variation as to dose; but, as in all the cases I have seen, it is curious enough that just at this stage there is a disposition to partial relapse.

I have selected the above cases as being good illustrations of this tubercular affection of the tongue. It is by no means a common form of disease; yet a year seldom passes during which one or more cases will not be met with in extensive dispensary or hospital practice. In private practice it is still

more rare. It would appear to me to be a form of lupoid disease attacking the tongue. It is as insidious in its onset; it commences not unlike it, in the form of an adventitious deposit; its progress is equally protracted, and its cure deceptive; and it also bears a very striking resemblance to it in its comparatively painless character, when we consider its formidable-looking appearance, and in the perfect listlessness and apathy with which it is borne. I may add, moreover, that the similarity is not lessened by reflection on the treatment suited to both. Children and adults are most commonly the subjects of this affection, the former by no means as rarely as we might be disposed to think; and I have seen the disease in them in its most aggravated form, although the subjects of it have all the ordinary features of good bodily health, in the common acceptation of the term; yet there is often present some indication of the strumous diathesis. The symptoms are so fully described in the cases I have now narrated, that it is unnecessary to enter into further details. From them it is evident that the tongue may be partially or wholly engaged, that the adventitious deposits may be single or otherwise, and that in several stages they will assume peculiar characters. The disease is not malignant; it is curable, but often very slowly so, and the more especially when ulceration has been established. In the latter instance, the appearance of the organ when healed is very characteristic; smooth, cicatrized sulci, totally devoid of even the semblance of papillæ, occupy the seats of the former ulceration, and are permanent there, dividing its surface into so many deep furrows of different shapes.

This affection may be confounded with syphilitic or cancerous disease, and hence the surgeon should be on his guard. Its diagnosis from the former may be occasionally attended with some difficulty, especially in its more advanced or ulcerating stage; but, even admitting that the syphilitic affection should be a solitary symptom, which is rare, I think that attention to the rules laid down by writers must enable the surgeon to come to a proper decision. His mistake, if he err, will,

however, be remedied by subsequent results, and the agents used are comparatively innocent, and are likely to be beneficial, in most instances, to both diseases. Not so as regards cancer; here his diagnosis is all-important, and requires the greatest circumspection. Respecting it, however, I am satisfied there can be no difficulty, if the main outlines of the affection to which I have alluded are borne in mind, especially its almost painless character and slow progress, and the trifling inroad it makes on the surrounding textures or on the constitution, even after a very prolonged duration.

The treatment which I have found most successful is that specified in the above cases; and the combination of iodide of iron with hemlock appears to be the best. In obstinate forms of the disease, some of the milder preparations of mercury may be requisite; but in all, the means employed must be continued for a lengthened period. I have tried many local applications, and amongst others, the acid nitrate of mercury, but I have found none equal to the nitrate of copper. It is most invaluable as an application to this class of ulcer; and I may remark, that it will be found equally so in many of those small excavated ulcers of a semi-phagedenic character, which occur on the genital organs both of the male and female. It is a very deliquescent salt, and can be applied only in the liquid state. The surface of the ulcer should be well dried before it is applied, and afterwards covered with oil; and it should be borne in mind, as regards the tongue, that the superficial appearance of the ulcerated surface is often most deceptive, as the disease burrows very deeply. The best mode of fixing the tongue, for the purpose of applying the caustic, is by means of the fingers and thumb, a portion of lint, linen, or a towel being interposed, so that it cannot slip; and the best instrument for the application is a small piece of cedar, as prepared for paint-brushes, the ends of which may be covered with lint or French wadding, one end being dipped in the nitrate of copper, the other in the oil, whereby no delay or confusion can ensue.

ART. VII.—*On a peculiar Form of Gonorrhœa*. By W. COLLES, F. R. C. S. I., Surgeon to Steevens' Hospital, &c.

THERE are few diseases occurring so frequently in medical practice, the treatment of which has undergone so little modification, while the result of that treatment has been so uncertain and variable, as gonorrhœa. Thus we meet with two patients whose symptoms are apparently similar; we subject both to the same routine of practice, and the result will be, that one will be cured in the space of two or three weeks, while the other will continue to labour under the disease for months, if not for years.

It has been the habit of the surgeon to consider the disease to be the same in both cases, and to attribute the different results of his treatment to some peculiarity of constitution, which either will not tolerate the remedies proposed, or resists their effects. I think, however, that if we examine the subject more closely, we shall find that there may be various affections or morbid dispositions in the several organs concerned in the disease or in the neighbouring parts, which, added to the original inflammation of the urethra, will contribute to keep up the discharge, and which must be removed before the patient can be perfectly cured. I had proposed alluding to such of these affections as I have found most frequently complicating the disease, and to the treatment required for each, before the gonorrhœa can be cured; but from the limited space that can be allotted to this communication in the present Number of the Journal, I find that I must postpone doing so until a future opportunity. I shall, therefore, confine myself now to the consideration of one which I have frequently found co-existing with and conducing to the severity of the original disease, rendering it much more intractable in its nature and progress, requiring a modification in its treatment, and one which has not yet attracted the attention from surgeons that its importance and frequency would seem to merit.

Gonorrhœa was considered by Mr. Hunter to be a peculiar inflammation of the lining membrane of the urethra, which never extended beyond the first two inches of the canal, and this he named its specific distance; he seems to have come to this conclusion from observing that the patient always referred the pain to this one part. Subsequently to him, surgeons seem to have adopted this opinion, without much consideration, for it will be found on inquiry, that there is scarcely a disease of the urinary organs, however remote, in which the patient will not fix on this spot as the seat of pain: I need only refer to calculus of the bladder as a striking example.

Contrary to this received opinion, I have no doubt that this peculiar inflammation, with secretion of pus from the lining membrane of the urethra, may commence at the orifice, spread along the entire of the canal, and very often attack the lining membrane of the bladder itself, and at times extend, I suspect, even to the ureters and kidneys: while thus progressing, a very slight cause might direct it towards the testicles, constituting the disease termed *hernia humoralis*. That such is the fact as regards the bladder is evidenced both from the general symptoms and from the appearance of pus in the urine. The symptoms are, I believe, never so severe as in that form of disease called *catarrh* of the bladder, when a thick ropy mucus is secreted in great quantity; they are at times so slight as scarcely to attract the patient's attention, who will merely consider that with him the symptoms are more severe than usual. I have seen this attack of the bladder ushered in with a severe rigor; and on close inquiry we may find that the patient labours under a slight degree of feverishness or uneasiness coming on or increasing towards evening; and that he will complain of a dull heavy pain across the pubis, extending round to the sacrum and anus, and at times even to the region of the kidneys. The calls to pass water will be somewhat more frequent than usual, and when they do occur they are irresistible, attended with considerable pain and forcing, which continue for some time after the last drops have passed away, and which

are referred chiefly to the neck of the bladder, and extend from thence to the perineum and anus. The urine, when passed, at times appears clear and natural; in general, however, we can observe a slight cloudiness through it, and on allowing it to settle in a glass vessel, we shall perceive, after one or two hours, a copious yellowish or cream-coloured deposit, consisting entirely of pus. If we take a drop of this urine immediately after it has been passed, before any alteration can occur in it, and place it under a microscope, it will be found to be loaded with pus globules. In some instances in this affection, a number of yellowish, shreddy particles will be seen floating through the urine, which at times alarm the patient, causing him to suppose he is labouring under seminal weakness: on examination, these particles will be found composed of clusters of pus-globules and epithelial scales adhering together.

That the pus thus equally diffused through the urine has its source from the bladder, cannot, I think, admit of a doubt. It cannot be from the urethra alone, for I believe that there is a peculiar action of this canal on its contents, which tends to drive them forwards, and resists any retrograde movement. Besides, the urethra alone could not pour out the quantity of pus we meet with in some of these cases.

My friend, Dr. Fleming, at my request examined the urine with the microscope in some of these cases, and the result of his observations is contained in the following extract from a letter I received from him on the subject:

“As regards your views respecting those inveterate cases of gonorrhœa, which are so annoying to the patient and so puzzling to the surgeon, no second opinion can be entertained but that the lining membrane of the bladder furnishes a portion of the purulent fluid, and, as you remark, at a much earlier period than at a first view would be suspected. To test the direct passage of the pus from the bladder, I have made the following experiments, both on the male and female. In the latter it is often most important to do so. I introduced a catheter, allowed the first ounce or so of fluid to escape, so as to get

rid of the urethral discharge, then collected some of the urine in a clean glass, examined it forthwith with the microscope, and found pus globules. I have applied the same test in equivocal cases of hematuria, and found equally satisfactory results as regards blood globules."

In the case which first drew my attention to this subject, the patient a few days after infection had a severe rigor, with considerable pain and irritation of all the urinary organs, attended with a copious deposit of pus, exceeding eight or ten ounces in the twenty-four hours. He soon began to waste, became emaciated, and even symptoms denoting hectic set in; and it was only by great attention he ultimately recovered. I at first feared that an abscess must have burst into the bladder; but his previous good health, and the absence of any symptoms indicative of a collection of matter, soon removed this impression. Since then, having suspected that this purulent state of the urine was at times both a consequence and a cause of the continuance of the disease, I have sought for its presence in several cases of gonorrhœa, and have met it much oftener than I had any reason to suspect; though I cannot form any conclusion as to the comparative frequency of its occurrence. I have observed the urine thus loaded with pus in two or three days after the commencement of the gonorrhœa, and afterwards keep pace with the original disease. I have also in two or three cases known the discharge from the urethra to continue, and pus to be found in variable quantities in the urine, for the space of nearly two years after the original infection.

I have no specific remedy to offer for the removal of this affection; in its treatment we must rely on, and be guided by, the general principles of surgery. And first, as to the value of that plan of treatment, called by the French *abortive*, I have no means of forming an opinion. I doubt not but that the injection of strong stimulants, as nitrate of silver or corrosive sublimate, may at times prevent the extension of the inflammation; yet, if they fail at first, they cannot but materially aggravate the subsequent stages of this disease. When the pus

has once appeared in the urine, we must follow the antiphlogistic plan more strictly than is generally done; low diet and rest being strictly enjoined, and purgatives, diluents, and such remedies as tend to lessen the inflammatory condition of the blood being exhibited: when the inflammatory symptoms have subsided, and not till then, should we resort to those remedies considered as specifics,—the balsams, or cubebs. Of these I think the former have more influence over this form of the disease, and do not add so much to the irritation, as the latter.

Should these means fail, it is customary to resort to the various tonics, astringents, acids, alkalies, oils, preparations of iron, &c. I must, however, confess, I have been often surprised to find what little influence medicine of any sort has had over this secretion of pus from the bladder. Each seemed for a time to benefit, yet no single remedy appears to possess any specific control over this disease. Should general remedies fail, and the case become chronic, surgeons resort to injections; but in this form of disease they must prove ineffectual. However, I would consider it a very justifiable proceeding, and one which I believe has often succeeded, to apply the remedies to the entire diseased surface; to inject, not only the urethra, but also the bladder itself with any of those numerous applications which are used in diseases in many respects similar, such as weak solutions of sulphate of zinc, of nitrate of silver, or even of balsams.

I have been induced to offer these crude and imperfect observations on this one form, or rather complication, of gonorrhœa, because it has not met the attention it merits; and I trust, by having called the notice of the profession to it, a body of facts and observations may be collected, which will speedily enable us to arrive at a more perfect knowledge of its diagnosis and treatment.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Bulletin Général de Thérapeutique, Médicale, et Chirurgicale.
Tomes xxxiv.-xxxviii. Paris, 1848-50.

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Paris, 1850.

Jahresbericht über die Fortschritte der gesammten Medecin in allen Ländern in Jahre 1848. Herausgegeben von DR. CANSTATT und DR. EISENMANN. Erlangen, 1849. Royal 8vo. Verlag von Ferdinand Enke.

Annual Report of the Progress of General Medicine in all Countries during the Year 1848. Edited by DRs. CANSTATT and EISENMANN. Erlangen (Bavaria), 1849. 7 vols. Royal 8vo. F. Enke.

IN the following review we purpose to embody some of the more remarkable of the contributions to surgery in which the continental journals have been extremely fertile during the last two or three years. Did our space permit, this selection might have been extended to much greater length; but in confining ourselves to those which have appeared to be most deserving of attention from their practical value, we have necessarily been called upon to exclude many which could not have failed to attract the notice of the scientific surgical observer. As will be seen, the duties of the reviewer have been, in a measure, superseded by those of the compiler and the translator, though we have, in virtue of our critical capacity, in no few instances dissented from the opinions of the authors, whenever their ob-

servations have not harmonised with the doctrines of the Irish school of surgery. We have dwelt at length on some ingenious instrumental improvements, which, though belonging, almost all, to the department of minor surgery, we cannot but consider as valuable additions to our list of surgical apparatus. We also beg to call the special attention of our readers to what may be looked upon as a new feature in medical journalism, namely, the illustration of several of the subjects we have chosen, by woodcuts from the blocks which were originally engraved for the journal from which we have taken them. This we have been enabled to accomplish by the kindness of Dr. Debout, editor of the *Bulletin Général de Thérapeutique*, with whom an exchange has been effected of the wood engravings of that journal and our own.

An important addition has been made to practical surgery in the introduction, by M. Nélaton, of a new, simple, and efficacious process for the reduction of dislocation of the lower jaw. The general pathology and treatment of this injury have at all times commanded the attention of surgical writers; and though conflicting opinions have been maintained as to the difficulties to be overcome, and the obstacles to reduction, one common principle has been followed in the several manœuvres adopted to restore the condyle to its normal position in the glenoid cavity. The views of M. Nélaton, however, will be found to possess originality, both as regards the obstacle to reduction, and the means of effecting it. According to the theory generally adopted in the present day, and sanctioned by J.L. Petit, Boyer, Astley Cooper, and others, when luxation of the inferior maxilla is once produced, the condyle of this bone, thrown in front of the transverse root of the zygoma, is maintained in this position, in the opinion of some, by muscular contraction, and in that of others by the resistance offered to the return of the condyle by the elevation of the transverse root. The first dissentient from this so generally received opinion appears to have been M. Malgaigne, who, in his *Traité d'Anatomie Chirurgicale*, expresses his doubts as to the correctness of this explanation, without, however, any attempt to substitute another. This distinguished surgeon, while endeavouring to luxate the lower jaw on the dead subject, was surprised to find with what facility the condyles could be made to pass in front of the transverse root of the zygoma, without rupture of either ligaments or muscles. Being next induced to examine the extent of motion of the condyle during depression of the lower jaw, he states that he has observed the condyle pass naturally in front

of the transverse root of the zygoma, leaving behind it a very considerable portion of the masseter muscle, which in no way prevented it from returning into its cavity; and finally, that in pressing the articular surfaces, one against the other, in closing the jaws, we feel very distinctly the *leap* which the maxillary condyle is obliged to make in order to repass the eminence of the zygomatic root. The following passage, however, shows that, beyond a certain amount of scepticism as to the truth of the generally received doctrine, M. Malgaigne's views did not lead him to any positive conclusions. He says:

“Voici une chose curieuse, une position normale que tous les chirurgiens de notre époque regardent comme une luxation, et chacun peut sur soi-même, reproduire à l'instant cette luxation prétendue avec ses symptômes classiques, sauf la douleur et la nécessité de la réduction.”

At this precise point M. Nélaton has taken up the investigation, considering the observations of M. Malgaigne as well founded and deserving of attention. Admitting in effect the displacement to be such as authors suppose it, he demands, “What is the obstacle which prevents the return of the condyle into the glenoid cavity?” In the opinion of this author, the elevation of the transverse root of the zygoma is not very pronounced; and he says that, even were it more considerable, it is easy to understand that it could not oppose an obstacle to the reduction; everything, in effect, in the articulation, ligaments, capsule, and muscles being so disposed as to admit of the easy passage of the condyle under this apophysis, the osseous eminences of this joint not being at all comparable to those which are found in other situations. In combating the doctrine of muscular contraction as a cause of the difficulty of reduction, as maintained by J. L. Petit, the arguments of M. Nélaton are similar to those advanced by Boyer, who says: “Pour que les muscles, qui, à l'état normal, élèvent la mâchoire pussent changer de rôle quand celle-ci est luxée, et d'élévateurs devenir abaisseurs, il faudrait que, dans le mouvement forcé d'abaissement de la mâchoire, les branches de cet os pussent croiser la ligne moyenne de direction des muscles ptérigoidien interne et masséter; il faudrait que les condyles fussent portés en avant, au point d'atteindre et même de dépasser la ligne dont il s'agit: mais un déplacement aussi étendu n'a jamais lieu; il suppose entre les mâchoires un degré d'écartement que l'on ne rencontre presque jamais en pareil cas”(a).

According, then, to M. Nélaton, the obstacle to reduction

(a) Boyer, *Ouvrages Chirurgicales*.

existing neither in the resistance offered to the condyle by the eminence of the transverse apophysis, nor in muscular action, it must be sought for, not in the articulation itself, but in neighbouring parts.

"In front of the tempero-maxillary articulation," says M. Nélaton, "we find the tempero-zygomatic fossa, in which the coronoid process is lodged when the mouth is closed. Before and behind this excavation are placed two eminences, the posterior formed by the transverse root of the zygoma, the anterior by the articulation of the superior maxillary with the malar bone. At the inferior part of the suture which results from the union of these two bones, there exists a tubercle sufficiently prominent, limited within by a notch formed by the smooth edge of the malar process of the superior maxillary bone, and often on the outer side by a little, elongated, almost oval fossette. This eminence, to which we may give the name of malar tubercle, is situated at about the distance of a centimetre(*a*) from the coronoid process. In place of this tubercle we have sometimes met a plane surface, and even in certain subjects a notch more or less deep; but the presence of the tubercle is the rule. With regard to the coronoid process this latter presents great differences; very short in some, and elevated scarcely to the level of the condyle, it is found very much elongated in others; sometimes directed upwards, at other times obliquely outwards, so that its summit tends to meet the zygomatic arch; in some instances directed forwards, and distant from the condyle; in others directed backwards, so as to approach it." "These facts well established," continues M. Nélaton, "let us examine the pathological condition. Having, as I have said, undertaken some experiments on the dead body, with a view to verify the prevailing doctrine on luxations of the lower jaw, I have ascertained:—First, as M. Malgaigne observes, that if the condyle of the lower jaw is carried forwards without passing the point which the cavity of the capsule permits it to reach, the displacement disappears forcibly as soon as we approximate the dental arches, the eminence of the transverse apophysis presenting no obstacle to the return of the condylé. Second, that if the anterior part of the capsule be cut or torn, so that the condyle can

(*a*) In the following pages the French measurements are, for the most part, retained; their simplicity and facility of application cannot be too much admired. The following scale will assist those unacquainted with the system of decimal measurements:

The metre	equals	39·37100 inches	English, or a little less than 3 ft. 3½ in.
centimetre	=	·39371	„ a little more than ¼ of an inch.
millimetre	=	·039371	„ a little more than ⅓ of an inch.

pass out of it and advance a few millimetres, we remark that the displacement is permanent, not, as is generally believed, because of the elevation of the transverse root, nor by reason of the contraction or tension of the muscles, but because the summit of the coronoid process comes to butt (*arc-bouter*) against the inferior and anterior angle of the malar bone, and is lodged in the little fossette which we have said exists often at this point. The contact of the summit of the coronoid process with the malar bone appears to us, then, to constitute an indispensable condition in the true dislocation; and for this the displacement need not be extreme; it suffices that the condyle be advanced from three to four millimetres. The external lateral ligament remains intact, the capsule alone is torn at its anterior part, and the inter-articular cartilage either accompanies the condyle in its displacement, or remains beneath the transverse root, according as the rupture is either above or below its anterior edge. . . . It results from what precedes that it is not on the condyle that we must fix attention to find the cause which renders the dislocation permanent, but on the coronoid process and the malar bone, since it is in the contact of these two bones that almost all the difficulty of reduction resides."

While we cannot but acknowledge ourselves convinced by the arguments of M. Nélaton as to the all-important part which the newly acquired relations of the coronoid process and the malar bone play in reference to the difficulty of reduction of this dislocation, we must be permitted to say that both muscular action and the elevation of the transverse root of the zygoma form elements which cannot be altogether disregarded in the consideration of the question.

However slight the eminence of the transverse root, once the dislocation has occurred, the superior surface of the condyle of the jaw becomes situated on a plane higher than the articular surface which it has just quitted; and the obstacle to its gliding back over a surface which, though smooth, is not a plane, is still further increased if we suppose the capsule torn and the head of the condyle protruded below the anterior edge of the inter-articular cartilage while the latter retains its position with regard to the transverse root of the zygoma. In reference to the effects of muscular action it is by no means necessary to suppose that the elevators become depressors, which is the opinion so ably combated by Boyer. It is evident, as remarked by J. L. Petit, that the contraction of the elevating muscles has a constant tendency to press the condyles against the base of the cranium, and to separate them from their articular cavities; the latter effect being favoured by the new direction which the vertical ramus of the jaw has assumed, its posterior edge being

- now directed from above and before downwards and backwards, completely decussating with its former direction. Again, the lower maxilla may be considered as having acquired a new fulcrum at the point where the coronoid process hitches on the malar bone, thus increasing the leverage of the masseters and internal pterygoids; though, of course, the action of the hyoidean depressors tends to antagonize the elevators. Muscular action, then, as well as the prominence of the transverse root of the zygoma, we consider to offer a certain amount of resistance to the reduction of the dislocation, though we gladly accord to M. Nélaton a full meed of praise for having pointed out by far the most important obstacle. The assertion of MM. Malgaigne and Nélaton resolve themselves respectively into the two following, viz.:—1st. In the depression of the lower jaw the maxillary condyle passes in front of the transverse root of the zygoma, without a luxation being produced. 2nd. In this luxation the obstacle to reduction arises from the fact of the coronoid process being supported on the malar bone. And though we entertain no doubt that each of these authors is entitled to the merit of originality, the erudite research of M. Beaugrand(*a*) has established that nearly similar opinions have been advanced by former surgeons, who, however, failed completely to discover the practical deductions to be gained from them. Bichat appears to have been well aware that in depression of the lower jaw the condyle passes with a sudden movement, capable of being felt by the hand, under the transverse root; and Fabricius ab Aquapendente has observed, “when the lower jaw is luxated its coronoid process escapes from under the malar bone, and cannot return upwards;” while the following passage, occurring in the works of Delpech, the celebrated Professor of the School of Montpellier, shows that he fully recognised the position assumed by the coronoid process: “On peut toucher par la face interne de la joue l’apophyse coronoïde et s’assurer *qu’elle appuie sous l’eminence malaire et que c’est ce point d’appui qui fixe les mâchoires au degré d’écartement ou elles se trouvent*”(b). Professor Smith also remarks that “the coronoid process forms, below the malar bone, a prominence which is very visible externally, but which is most distinctly felt through the mouth”(c).

(a) See this writer's able *Examen des nouvelles Recherches sur la Luxation de la Mâchoire inférieure*: *Journal des Connaissances Médicales*, 6e numero, Mars, 1850; and 7e numero, Avril; a source to which we beg to acknowledge our obligation for a most succinct account of M. Nélaton's researches.

(b) *Precis élémentaire des maladies réputées Chirurgicales*, t. iii. p. 61. Paris, 1816.

(c) *Smith on Fractures and Dislocations*, p. 286. Dublin, 1847.

In effecting reduction, however, all the efforts of M. Delpech were directed towards overcoming the contact of the condyles of the jaw with the transverse root of the zygoma. The merit, then, of drawing inferences of practical value from this observation rests indisputably with M. Nélaton, who had already advanced, in his *Elements of Pathology*, an opinion as to the possibility of effecting reduction by pushing the coronoid processes directly backwards by means of the thumbs placed either in the mouth, or externally immediately below the malar bone. While engaged in examining the exact position of the coronoid process, and its relation to the malar bone, before he could complete his examination, the jaw was found to escape from his fingers, and to restore itself of its own accord. The following case presents a remarkable contrast between the method of reduction generally adopted, and that of M. Nélaton:

“A woman luxated both condyles of the lower jaw, whilst yawning, about 11 o'clock in the evening. M. Beaugrand, summoned on the instant, had made many attempts at reduction without success. Two other surgeons, having been called in, tried several methods, and finally, at 2 o'clock at night, the patient, being wearied out, was left with the luxation unreduced. On the next day the efforts at reduction were renewed, but equally without success, and on the day following (thirty-six hours after the accident) M. Nélaton was summoned. On his arrival, the patient was suffering much, the cheeks and mouth being swollen and œdematous from the pressure exercised in the attempts at reduction; and even the mucous membrane of the mouth was excoriated. The mouth was open, the dental arches separated only to the extent of a centimetre; the lower incisor teeth on a plane anterior to the upper. There

was an invincible obstacle to approaching the jaws; but it was possible to open the mouth further, and the separation of the incisor teeth could be carried as far as two centimetres."

The depression in front of the meatus auditorius was well marked, as seen in the accompanying figure. M. Nélaton proceeded to examine the patient; the index finger of the right hand was introduced into the mouth, and placed on the anterior edge of the coronoid process, so that the palmar aspect of the finger, in following it up, came to the summit of the coronoid, which was then manifestly found resting in front of the malar bone. "All these points established," says M. Nélaton, "I proceeded to the reduction, for which I ordered the patient to open the mouth as much as possible, and whilst she executed this movement, I placed my two thumbs on the coronoid processes, and without even embracing the jaw, without taking any other point of support, a simple pressure in a backward direction caused the condyles to return suddenly into their cavities; the reduction was complete, and all the symptoms disappeared. What theory had made me only presume was surpassed by reality, and the new process was found not only equal but superior to the old, even when put in execution by skilful surgeons." Two other cases of successful application of this process are recorded by M. Nélaton. In one, reduction had been unsuccessfully attempted by pushing the coronoid process upwards and backwards, thus approximating more closely this process to the malar bone. The patient was brought to M. Nélaton, who, placing himself behind, took with his thumbs a point of support on the nape of the neck, and, commanding the patient to open his mouth, exerted a slight pressure upon the coronoid processes, by means of the fingers placed externally: a slight noise was heard, and the condyles resumed their places, the countenance of the patient recovering its normal configuration, and the mouth its functions. It is but right to add, that M. Chevalier, intern of the hospital of St. Louis, and M. Vassor, who had seen M. Nélaton operate, failed in the application of his process, though they took the precaution of causing the patient to open his mouth; reduction was finally effected in this case by the ordinary method.

To succeed, according to the process of M. Nélaton, it is necessary to act either by the interior of the mouth, taking a point of support behind the mastoid processes, or externally, by the operator taking a position behind the patient, and making pressure on the coronoid process, pushing it downwards and backwards, to disengage it from contact with the

malar bone, at the same time that the patient opens the mouth. In ordinary cases, a light pressure is sufficient; but if more force be requisite, M. Nélaton advises the head to be supported by an assistant, or a band to be passed around it, in which the operator can engage his index and middle fingers, while the thumb must be brought to bear on the coronoid process. The accompanying figure exhibits a simple and efficacious method of employing a handkerchief to give a sufficient fulcrum.

The method of reduction which we have now described has been before the profession for more than a year. We have seen the success which has attended its use in the author's hands; and when we reflect on the great difficulties frequently presented to the surgeon in attempting to restore the lower jaw to the glenoid cavity, we cannot but feel that M. Nélaton will have conferred a signal benefit on humanity should the rigid test of experience prove that his anticipations of the facility of reduction by the method he has devised are as well founded as we are confident his views of the pathology of this luxation are correct. We shall anxiously await the verdict of the clinical surgeons of Dublin on the subject.

M. Nélaton has made an interesting and practical contribution to the pathology of congenital affections^(a), in which he has given a detailed description of a congenital luxation of the humerus. The symptoms were well marked, the right arm, the shoulder, and the corresponding half of the thorax being imperfectly developed, so that the extremity differed perceptibly, both in length and size, from the other. The right

(a) Canstatt's Jahresbericht, Leistungen in der Mechanischen Krankheiten Von Hecker, reported from *La Gasette des Hôpitaux*.

(luxated) arm was three and a half inches less in circumference than the left, but the atrophy was confined to the upper arm, the fore-arm possessing its normal length and volume. The arm and fore-arm hung vertically by the side. The shoulder was deformed, the deltoid much flattened, and in the infra-spinous fossa there existed a deep excavation. The head of the humerus could be plainly felt under the coracoid process, and behind it the posterior border of the glenoid cavity could be easily defined. It was moveable in all directions, and the shoulder, also, had completely preserved its motions. It could be depressed, raised, moved forwards and backwards, but the arm could not be abducted.

The hand and the finger possessed their normal mobility in this case. There was manifestly paralysis of the deltoid, supra- and infra-spinati, the biceps, coraco-brachialis. and brachiaëus anticus muscles, while those of the shoulder, the great pectoral, latissimus dorsi, and all the muscles of the fore-arm and hand, enjoyed their usual power. The case presents points that differ much from those described by Professor Smith(*a*), in which the amount of motion was much more limited. In M. Nélaton's case, the fore-arm and hand were well developed, and enjoyed free motion. Cruveilhier, as is well known, does not consider these cases as examples of congenital luxation, but as the result of paralysis of the deltoid; an opinion which we have combated in our notice of his recent work on pathology(*b*).

Vrignonneau has reported a case of dislocation of the fifth cervical vertebra, in which his efforts at reduction were crowned with success. It occurred in a man thirty-three years of age, who fell from a cherry-tree on his head, becoming immediately senseless, and remaining so for an hour and a half, after which he complained of intense pain in the vertex and neck. The head was bent forwards, and the entire body motionless. After a time, paralysis of the extremities, the sphincters, and the bladder came on. On the second day, death by suffocation appeared imminent, yet reduction was attempted in the following manner:—The patient's shoulders were fixed by assistants, and traction made on the head by the operator. In proportion as the parts were extended, the voice became stronger, and the breathing freer; as soon as extension appeared to have been carried to a sufficient degree, the head and the upper cervical vertebra were directed backwards, when the under surface of the fifth slipped on the upper surface of the sixth cervical vertebra with a perceptible noise. The unpleasant symptoms

(*a*) *Op. cit.*, p. 260, *et seq.*

(*b*) Vol. ix. p. 176.

immediately disappeared, the man was soon able to resume his occupations, and experienced only some stiffness and impediment in the lateral movements of his neck(a).

Many other important contributions to the pathology of luxations have been made within the last few years, which want of space prevents us from noticing at present. In Canstatt's Jahresbericht for 1848, Erlangen, 1849, will be found an excellent retrospect of the labours in this department, a source from which we have freely borrowed, and to which we refer such of our readers as may be anxious for further information on these subjects.

M. Seutin has published, in the Journal des Connaissances Médico-Chirurgicales, a series of observations on the treatment of fractures by what he terms the method *amovo-inamovible*, in which he has described, at considerable length, a series of apparatus destined for the treatment of all descriptions of fractures. In principle it consists of the application, on an extensive scale, of starch bandages. Numerous figures are given representing the apparatus as modified for each limb, and each variety of fracture. We cannot do more at present than refer our readers to the original papers(b).

The multiplication of surgical instruments, unless when dictated by a sense of their absolute necessity, we have always considered as more likely to impede than to advance the progress of our science. In the department of *minor surgery*, however, many imperfections undoubtedly exist, both in the apparatus employed and also in the method of applying them. While, therefore, we think that the skilful surgeon should be prepared in difficult circumstances to turn such instruments as he may possess to as many uses as possible, we are not disposed to receive unfavourably any assistance which may be offered us by mechanical ingenuity or skill; and we consequently proceed to notice a few improvements effected by our continental brethren.

The accompanying figure represents an instrument devised by M. Luër for the reduction of dislocations of the thumb. It has been successfully employed by M. Blandin. That originally invented by M. Luër has undergone some modification and improvement in the hands of M. Charriere, whose name is so well known in connexion with the manufacture of surgi-

(a) Canstatt's Jahresbericht, Leistungen in den Mechanischen Krankheiten Von Hecker, quoted from the Journal des Connaissances Médico-Chirurgicales.

(b) Journal des Connaissances Médico-Chirurgicales, Numéros d' Octobre, Novembre, Decembre, 1849, January, 1850, et seq.

cal apparatus. The modified instrument of M. Charriere consists, as shown by the woodcut, of a forceps, the blades of which, instead of being simply enlarged, are bifurcated. The parallel arms resulting from this bifurcation of each blade are furnished with straps of leather, A, interlacing in two-thirds of their extent, and thus forming a double knot, which is opened by the separation of the blades which form the handle. The action and power of this double knot can be limited and maintained by two screws, B, C, in such a manner that, without employing much force, a sufficiently great pressure can be exerted, which, at will, may be increased, diminished, or kept fixed. This forceps, the application of which is obvious, may be employed indifferently for all the fingers, and, indeed, on a larger scale, might be capable of more general application. With some slight modification of the handles, and the addition of rings, or other means of attaching the cords of a system of pulleys, it would be of great service in the reduction of dislocations of the limbs. The original instrument of M. Luër, though used with success by M. Blandin in the first case, completely failed in the next. It is, however, but just to add that the ordinary means of reduction had also been ineffectual, though aided by subcutaneous section of the lateral ligaments, and the attachments of the muscles of the thenar eminence. It is only, then, in recent cases that we may expect success from the employment of the instrument, which, it will be at once confessed, presents many advantages over the ordinary means, especially the rude though ingenious application of the door-key, or the well-known clove hitch(a).

At various periods in the history of surgery, attempts have been made to obtain the union of wounds by other means than the employment of adhesive plasters and sutures; different forms of clasps have been suggested and applied; but this

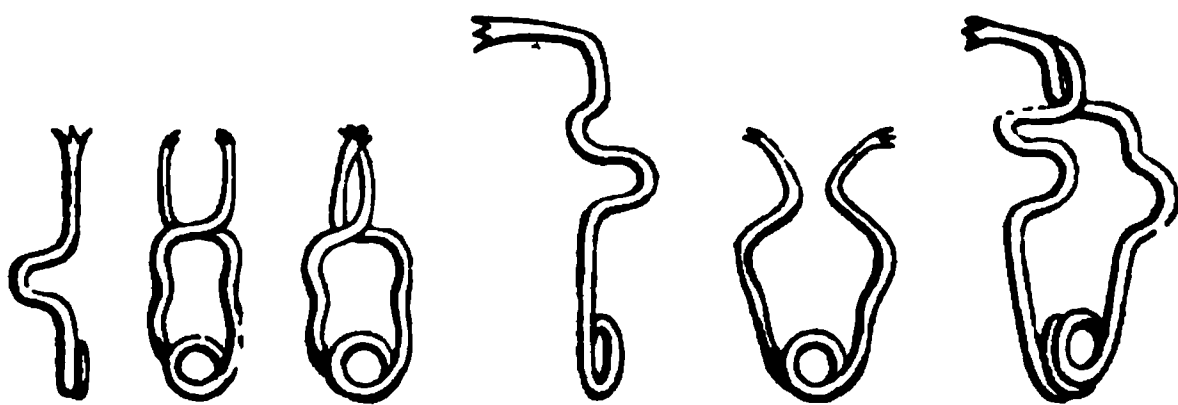
(a) Bulletin général de Thérapeutique, tome xxxiv., 11e Liv., 15 Juin, 1848, p. 500.

method had completely fallen into oblivion until M. Vidal (de Cassis), the well-known surgeon of the hospital du Midi, had again brought it under the notice of the profession, by the invention of a new instrument, which he has applied in practice with successful results. Having been in the habit of uniting by interrupted suture the wound which results from the operation of phymosis, he at first thought it necessary to allow the threads to remain until the fourth day; but was subsequently induced to remove them on the third; and finally, having withdrawn them after twenty-four hours, he found that the wound had not the less completely united. The question then occurred to him, whether, for so short a period, sutures could not be altogether dispensed with, and the lips of the wound kept in apposition by means of a mechanical spring, which should not perforate the integuments. Having searched unsuccessfully the *arsenal* of M. Charriere, which did contain some instruments of this kind, but not suitable to the purpose, M. Vidal got M. Charriere to make for him the small forceps of continuous pressure, represented in the adjoining woodcut. The letter A shows the forceps seen sideways, and B the same instrument applied so as to preserve in contact the mucous membrane and the skin, after the operation for phymosis.

In this little forceps, from the manner in which the blades cross each other, the points are constantly kept in apposition, until a slight pressure is made at the part where both are united. M. Vidal has proposed the name of "*serres-fines*" for these little instruments, which in his opinion are destined completely to supplant the ligature and the use of adhesive plaster. The number of them to be employed in any particular case will depend on the extent of the wound. "It may be necessary," says M. Vidal, "to apply as many as sixteen." The period for which this application is to be continued, does not, in the opinion of this surgeon, exceed twenty-four hours; and he states that the re-union is accomplished as completely after eight as after twenty-four hours. They can be removed with facility, it being always remembered, that they open or close by a mechanism exactly the opposite to that of the ordinary for-



ceps. In their removal they present many advantages over the suture, occasioning neither pain, bleeding, nor traction. Their employment is not limited to wounds of the prepuce. The inventor has himself used them for the union of a wound of the temporal region. M. Danyau gives a successful case of their employment in rupture of the perineum, of twelve hours' standing, in which union was accomplished in sixty-five hours. Their application has been proposed by Vidal, in the case of varices, with the view of arresting the current of blood, without injury to the integument or the vein itself. In a subsequent communication to the *Bulletin de Thérapeutique* the author has proposed a modification of his *serres-fines*, by which greater simplicity, and, what is more important, lightness, are combined. They are formed of silver wire, of the



strength of an ordinary pin, and are easily made: the above figures exhibit several varieties of them.

MM. Chassaignac and Vidal (de Cassis) are respectively the authors of an operation for phymosis by the method of circumcision. That of M. Chassaignac consists of the introduction into the cavity of the prepuce of a blunt forceps, or any other dilating instrument with two branches, which in opening form the letter V. When the tension and flattening out of the prepuce are once accomplished, M. Chassaignac implants three needles in the base of the cutaneous triangle, which are passed through only the half of their length. They are then given to an assistant to hold, and the forceps are withdrawn. A fine strong thread is now taken, and a circular ligature made in front of the needles, which strangulates all the part of the prepuce that had been dilated. The scissors, carried perpendicularly in the furrow made by the ligature, divides at one cut integument and mucous membrane, after which the needles are passed quite through, with their threads, the loops which they form between the opposite edges of the prepuce are divided, and twice as many separate ligatures as there were originally needles are thus obtained. The remainder of the operation consists in bringing the mucous membrane and the skin accurately into apposition at the edges

of the wound, by means of the ligatures. The reviewer in the *Bulletin de Thérapeutique* claims for M. Vidal (de Cassis) the merit of having employed this process three years before it was proposed by M. Chassaignac. M. Vidal appears, however, to have since adopted another process, of which the accompanying wood-cut gives a representation. It consists in tracing with ink on the prepuce a line indicating the point where the section is about to be made, then grasping the prepuce with a dressing forceps, or a forceps of continuous pressure, in front of this line, the operator draws the prepuce a little forward, and having passed three needles with waxed thread through it at the line traced by the ink, divides at one cut the mucous membrane and skin. The following practical observations of this distinguished surgeon, in reference to the operation of phymosis, deserve attention:

"I have been hitherto in the habit of reuniting the mucous membrane and integument immediately after the section. But I have observed, after these instantaneous unions, ecchymoses of the sheath of the penis, thrombus of the base of the prepuce, infiltrations, and sanguineous collections, which prevented the immediate healing of the parts. I have, therefore, in regard to this operation, determined to follow the precept of Dupuytren, who allowed a certain time to elapse between the operation and the dressing. I perform the section at the commencement of my visit, during the remainder of which the wound is bathed with fresh water; and when I come again to my patient, the vessels have disgorged themselves, the wound no longer bleeds, and is in the most favourable circumstances for immediate union."

The treatment of diseased organs by the continued and regular exercise of their functions, has frequently occupied the attention of our continental brethren. Amongst the most recent applications of this principle will be found that of M. Bonnet,

of Lyons, who has devised a series of apparatus of a somewhat complicated nature, for the treatment of certain affections of the joints, in the production of which the author thinks that immobility plays a considerable part, and which, by the employment of regular and graduated motion, admit of great amelioration, if not of cure. M. Bonnet occupies the chair of clinical surgery in the medical school of Lyons, which he has filled with considerable distinction, being already known in medical literature by his *Traité des Maladies des Articulations*. The uses to which artificial motion is applicable as a remedial agent may, in the opinion of M. Bonnet, be divided thus:

1. Articular affections, the result of immobility of the joints, under which denomination may be comprised the swellings of joints and difficulties of movement which are observed as a consequence of the treatment of fractures.
2. Articular affections, the result of sprains.
3. Difficulties of movement consecutive to old but reduced luxations.
4. Chronic inflammations, so called rheumatic; in other words, chronic inflammations without suppuration, without fungosities, and without tubercles.
5. Fungous tumours of joints, the result of scrofulous affections.
6. Anchyloses.

In these several affections the application of artificial motion must undergo certain modifications. In the three first varieties it may, in the opinion of this author, form the basis of the treatment, the disease being essentially local, and the principal indication being to restore mobility. In the chronic inflammation, however, and in cases of fungous tumours, it will be necessary, before all, to combat the cause of the evil, and modify the constitution; but when these indications are fulfilled, artificial motion should not be neglected. In the rheumatic inflammations the cartilages, in part absorbed, offer a rugous surface; the synovial fluid exists no longer, or is replaced by the serosity of hyarthrosis; the soft parts of the joint become thickened and less supple. In this, as well as in the case of fungosities, there is no part of the articulation which, by the application of artificial motion, may not be subjected to pressure, friction, and alternations of relaxations and extension. In anchyloses the application of M. Bonnet's apparatus is limited to those cases in which there exists an incomplete, purely fibrous ankylosis, without deformity of the articular surfaces, and where there is only an ulceration of the cartilages. An objection raised to the employment of any amount of motion in affections of the joints, is the degree of pain thus produced; but, in the opinion of M. Bonnet, a great difference exists in this respect between artificial and spontaneous movements. Thus, when a patient whose knee

is affected stands up, and attempts to walk, he experiences an increase of pain, which is, on the contrary, diminished by repose. If, says M. Bonnet, in place of imposing on the patient the necessity of walking, a complex exercise in which the vertical position is associated with muscular contractions, we cause him to exercise artificial movements in the horizontal position, it produces but passing pain, which decreases each day, and after its employment for a period more or less protracted, walking becomes much more easy.

Each joint requiring a separate apparatus to effect its motions, M. Bonnet has devised a special mechanism for the knee, the elbow, the wrist, &c. In the accompanying figures we present our readers with a view of those adapted to the knee and the ankle, referring to the original treatise(*a*) for further information on this subject.

Considered in a general way these apparatus consist of two parts; one fixed, destined to grasp one of the bones entering into the articulation; the other moveable, and attached to the bone which is to be put in motion.

In the subjoined woodcut the thigh is represented enveloped by a cushion which fixes it; two rods of iron, placed one on

either side, stretch horizontally forwards in the axis of the femur, and at the extremities are supported by a vertical rest. The leg is held by means of a bracelet with straps, between two parallel rods, united below, and jointed on a level with the

(*a*) *Des Appareils de Mouvement, et de leur Utilité dans le Traitement des Maladies Articulaires.* Par M. Bonnet, Professeur de Clinique Chirurgicale à Lyon, 1848.

knee to the horizontal rods which fix the thigh. The external of these moveable rods, prolonged upwards, forms a handle by means of which the patient can effect the movement of flexion. A cord fixed to the junction of the two moveable rods, and playing over a pulley, serves to execute the movements of extension. (This, by the way, appears perfectly unnecessary, as flexion and extension might be both performed by the one handle.) Attached to the external side of the apparatus is found a graduated semicircle, the centre of which coincides with the centre of motion, and is so adjusted that the external rod glides on its surface, like a hand on a dial. A collar of iron and a screw allow this rod to be arrested on different points of the semicircle, and consequently the leg can be fixed at different degrees of flexion. Several apparatus for effecting angular movements have been also constructed by the author. The next figure represents that destined to produce lateral inclination of the entire foot, and a vertical pivot forms the centre of motion.

The limb, flexed slightly and placed horizontally, is received into a concave support, A, which occupies the inferior third of the thigh and the superior three-fourths of the leg. The foot is enclosed in a sort of shoe, B, the superior part of which covers the dorsum of the foot, is moveable, and can be laced more or less tightly by means of straps. To the heel of this shoe is fixed a rod of iron, C, about half an inch in diameter, and three and a half inches in length, which plays as a pivot by its free extremity on the support of the apparatus; it is maintained in a perpendicular direction by a collar of iron. To the centre of the sole against which the foot is applied is adapted a transverse lever, the two extremities of which, D and E, separated from the borders of the foot by a distance of seven or eight inches, serve as points of attachment for two cords, the ends of which, H and I, are worked by the

hands of the patient, who by alternate traction on these cords exercises on the foot a lateral motion, the mode of production of which requires no explanation.

The method of M. Bonnet has been tested in practice, and, according to the author, with very successful results. All his observations show that the application of artificial motion has been harmless. When applied to chronic cases, in which no acute inflammation exists, though a slight swelling and increase of temperature have attended the first essays, these symptoms have been only temporary, and after the end of a certain time the movements, instead of producing pain, have given suppleness and flexibility to the joints. In those cases in which the diseases of the articulations have been produced by exterior causes, a great amount of amelioration, or even a complete cure, has been effected. Sprains of the hip and foot, impediments to motion of the elbow after reduction of old dislocations, and chronic inflammations, whether simple or rheumatic, have been thus treated with success; while as an accessory in the surgical treatment of club-foot, the method has been equally successful. These observations of M. Bonnet we think highly deserving of attention, and notwithstanding that the apparatus presents a certain degree of complication, we cannot think that a praiseworthy attempt to devise some method of treatment for affections which are and have been, in many instances, an opprobrium of surgery, deserves the severe strictures bestowed on it by a writer in the *Revue Médico-Chirurgicale*(a), who classes the apparatus of M. Bonnet with "les machines assez grossières de Fabrice de Helden et de Fabrice d'Aquapendente;" and again: "Il est vrai que M. Bonnet a cherché à remplir certaines indications utiles qui leur avaient échappé. Mais ils n'avaient chacun qu'une machine; et c'est bien le moins qu'avec quinze machines on en fasse un peu plus qu'avec une seule."

Much yet remains to be tested by clinical experience in the application of this method. We confess that our good faith in the assurance of M. Bonnet and his recorded observations, induce us to entertain a more favourable opinion of the *appareils de mouvement* than that expressed by our contemporary(b).

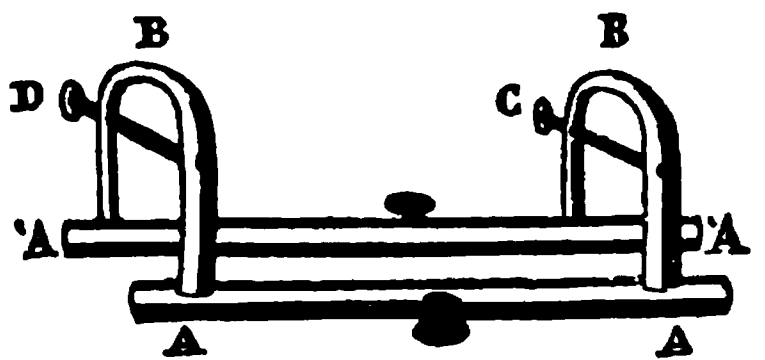
The treatment of varicocoele of the cord by counter-irritation has at different periods occupied the attention of surgeons, but

(a) *Revue Médico-Chirurgicale*, Février, 1850, tom. vii. p. 119.

(b) *Vide Bulletin Générale de Thérapeutique*, tom. xxxvii. p. 501, et seq.

the employment of caustic has hitherto been attended with many difficulties ; when applied on the scrotum its action is found insufficient to affect the vein. At the same time that the obliteration of the vein was indicated, it was of the highest importance to avoid interrupting the continuity of the vas deferens, or destroying its cavity. M. Bonnet has endeavoured to realize this object by the construction of a little instrument destined to isolate this duct, while it allows of the free application of the caustic to the spermatic veins. This surgeon has proposed the incision of the skin and fasciæ, in order to allow of the direct action of the caustic on the veins which he wishes to destroy, a plan which he states that he has put into execution with considerable success, at the same time that he was enabled, by an instrument similar to that represented in the subjoined woodcut, to maintain the most perfect isolation of the vas deferens from the cauterizing action.

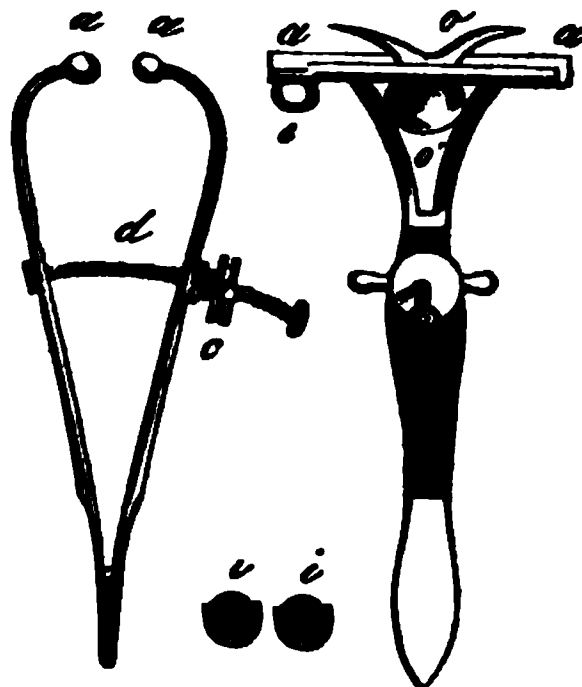
The instrument consists of two semicircular elastic hoops, B, B, uniting the extremities of two parallel rods, A A, which are capable of being approximated by the action of the screws, C, D. The operation, as proposed by M. Bonnet, consists of the three following steps:—1, isolating the vas deferens, by placing the instrument on the cord, and turning the screws C, D, which accomplishes the separation of the spermatic veins from the vas deferens ; 2, incising the integuments and fasciæ, and exposing the veins ; and 3rd, the direct application of the chloride of zinc (de Canquoin) or the caustic of Vienna. This process presents some features of novelty, and much ingenuity, but will require to be tested by experience before an opinion can be pronounced as to its real merit. The author, a surgeon of distinction, assures us that in his hands its employment has been very successful.



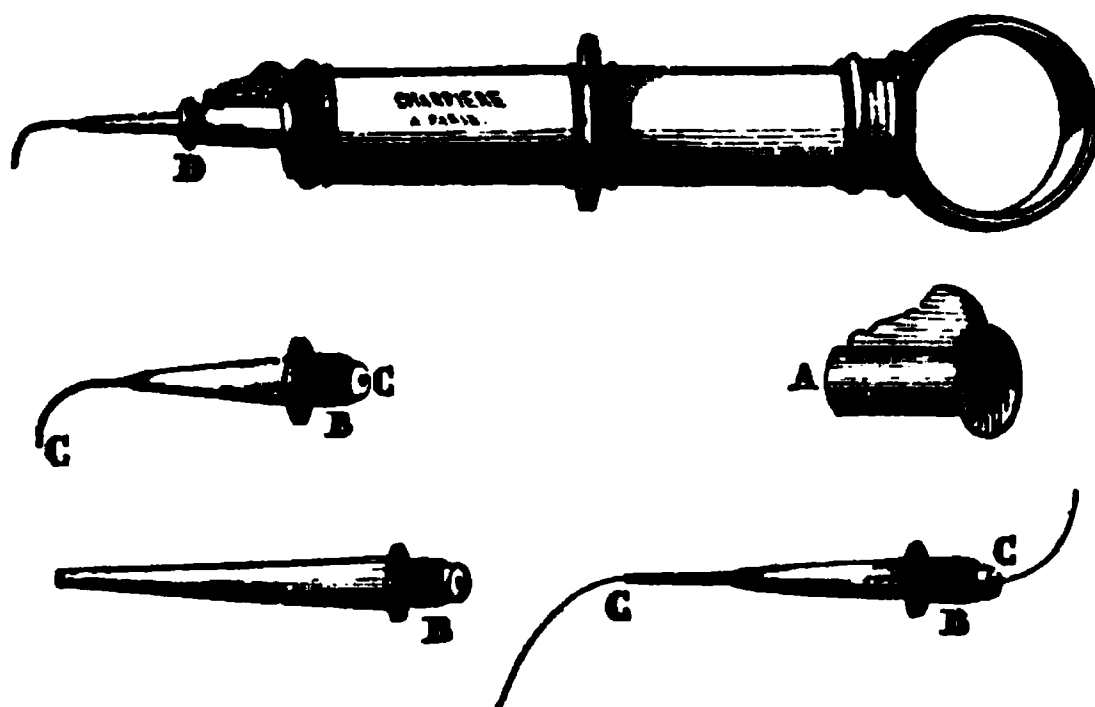
For the cauterization of internal hemorrhoids M. Amussat has proposed a new process which appears to render this operation much more easy and certain in its execution. It consists in strangulating between the teeth of a forceps charged with caustic the pedicle or base of the hemorrhoidal tumour, as represented in the accompanying figure.

The instrument is composed of two blades, similar inferiorly to those of a dissecting forceps, but bifurcated in their superior third. This bifurcation supports two straight, hollow cylinders,

a, a, about two inches long, and a fourth of an inch in diameter. By means of a semicircular plate which covers at will the channel *i, i*, which these cylinders present, the caustic can be protected from the air, or brought into contact with the tissues which it is required to act on. The semicircular plate is worked by means of two little rings, *e*. A nut, *c*, running on a curved screw, *d*, allows the blades of the instrument to be approximated, and a strong compression to be exercised on the parts, *o, o*, which they embrace. The instrument is applied by seizing the hemorrhoid between the two cylinders, then, by means of the rings, *e*, uncovering the caustic (*caustiques de Vienne, chaux et potasse*); and whilst the cauterization is aided by compression, a stream of cold water is directed with a syringe on the parts, to wash away the superfluous caustic. This process has been three times applied with success by M. Amussat, but in those cases in which the ligature can be employed we confess that the latter would appear to us to answer all indications equally well.



The annexed cut represents Anel's syringe, as slightly modified by M. Charriere. One of the great inconveniences in



the use of this instrument for injecting the lachrymal sac arises from the facility with which it become stopped, when the wire used ordinarily for cleaning it is found to do so only imperfectly. M. Charriere has divided the tube *D* into two parts, *A* and *B*,

which can be separated for the purpose of being cleaned. The capillary tubes, C, C, can be fitted to the screw A, as represented at D, by means of waxed thread, B B.

The surgical applications of gutta percha and caoutchouc have been multiplied very considerably of late years, and it may be anticipated that both these substances will ere long afford much assistance to the practical surgeon. By the process of vulcanization, caoutchouc acquires such cohesion and elasticity, that it is capable of resisting a very considerable distending force; while being unaffected by the majority of chemical agents, such as the nitric, hydrochloric, and sulphuric acids, the nitrate of silver, and acid nitrate of mercury, we have not to encounter any of those inconveniences in its application which attend the use of other articles which are for the most part influenced by chemical action.

M. Garriel has laid before the Society of Surgery a communication on the employment of vulcanized caoutchouc in surgery, in which, after dwelling on the general uses of this substance, he proceeds to describe an apparatus of continuous traction, which he has proposed for the treatment of fracture of the femur, of which the adjoining woodcut presents a good idea.

The traction exercised on the groin by the ordinary band is frequently the cause of painful excoriations, which M. Gar-



riel proposes to obviate by the use of a tube in caoutchouc, presenting a slight enlargement about the centre. This tube, when distended with air, as shown in the adjoining cut, pre-

sents a smooth and polished surface, so that the extension may be continued for a very considerable time without inconvenience to the patient. Even when applied over surfaces already excoriated, it will not impede their cicatrization, as was observed in a case under M. Nélaton at the hospital Saint Louis, where large excoriations had occurred in the fold of the groin from the pressure of a perineal band, applied for the purpose of making counter-extension in the ordinary way in a case of fracture of the neck of the femur. In this instance, M. Garriel's tube in caoutchouc was substituted, and in two days after the cicatrization of the wounded surface was complete.

The next woodcut represents an ingenious application of a tube in caoutchouc, carrying at its extremity a dilatable balloon, which, when introduced into the cavities of the nose in its undistended state, may, by the process of insufflation, be made to assume very considerable dimensions, and exert such pressure on the mucous surface as to arrest hemorrhage in cases of epistaxis. If the distention be carried still further, not only may the nasal cavities be completely filled, but the balloon may be made to present in the posterior part of the mouth. A simple method of plugging the posterior nares suggests itself in examining this tube with dilatable extremity. This operation, as at present performed, whether with a special apparatus or with an ordinary catheter, is frequently very troublesome, though simple in appearance. If the tube represented in the adjoining figure be introduced from before backwards through the cavities of the nose, until it has quite cleared the posterior nares and arrived in the pharynx, and be then dilated and drawn forwards, we obtain a more complete and manageable plug than that usually made of lint. The letter B indicates a sort of obturator for cases of perforation of the palate, the application of which is obvious. Its lightness, and the facility of fixing it, constitute advantages not possessed by any metallic plates.

M. Diday of Lyons has made an ingenious use of the di-

latable caoutchouc tube for the purpose of repressing uterine hemorrhage. Having been called to a case of uterine hemorrhage, in which all the usual methods had been unsuccessfully tried, he resolved on endeavouring to arrest the discharge of blood, which every instant threatened to prove fatal, by the direct application of pressure. The apparatus used consisted of a long tube with a little bladder at the extremity, which was introduced into the vagina, conducted by the index finger, and thus maintained in place whilst insufflation was practised at the other extremity of the tube. The bladder was thus increased in dimensions until it acquired a diameter of about twelve inches, the air being retained by means of a ligature on the free portion of the tube. The hemorrhage was instantaneously arrested; the patient regained strength; and after two days a small quantity of the air was allowed to escape, when no return of the hemorrhage occurring, the entire was withdrawn on the day following.

The next woodcut shows the application of a caoutchouc tube for compression of the prostate when tumefied; a method of treatment which has been already employed by many continental surgeons, and for which particular instruments have been designed by Ducamp, Miquel d'Amboise, &c.

Several other important uses of caoutchouc have been considered by M. Garriel, which we can but glance at at present. Amongst the most useful are dilatable suppositories, the employment of which is indicated in prolapse of the rectum, retractions of the sphincter, compression of hemorrhoids, &c., &c. He has also proposed that pessaries should be constructed of this substance, which, by their pliability, and the facility of introducing and withdrawing them when in a small volume, would give them innumerable advantages over the ordinary wooden instruments, the rigidity of which frequently causes much pain in their introduction and withdrawal.

M. Chassaignac has employed suction tubes of vulcanized

caoutchouc for the removal of deeply-seated collections of matter.

The construction of a species of urinal in caoutchouc, places in our hands a very simple means for avoiding the unpleasant and often fatal consequences which result from incontinence of urine in certain cases of paralysis, and other affections complicated with profound lesion of the voluntary nervous power. This little instrument is furnished with an aperture of sufficient diameter to embrace and grasp the penis by a little elastic band such as that by which a glove encircles the wrist, besides which there are two small loops by which it may be attached to a suspensory bandage, while the lower part is supplied with a stop-cock. The use of this little apparatus will be found to add much comfort to the patient's existence, and save him from the unpleasantness of bed-sores in many instances.

Such are a few of the many applications of this substance in the practice of surgery. We have no need here to recall its ingenious use by Dr. Simpson as a substitute for the forceps; and we feel confident that it is destined to lend us even farther assistance(a).

We must conclude for the present our notice of the many aids to practical surgery for which we are indebted to the Continental school, but we hope in an early Number to be enabled to bring the subject again under the notice of our readers.

On Diseases of Menstruation, and Ovarian Inflammation, in connexion with Sterility, Pelvic Tumours, and Affections of the Womb. By EDWARD JOHN TILT, M. D. London, Churchill. 1850. Post 8vo. pp. 250.

Dr. TILT informs us in his preface, that the views put forward in this work were first expounded in a series of papers which appeared in the numbers of the *Lancet* for 1849; and that, having been favourably noticed by some contemporary organs of the medical press, and also by many of his professional brethren, he was induced to publish them in a separate and more perfect form. In this we think he has acted wisely, as his writings are upon subjects that deserve the deepest attention, and a more prominent place in our medical literature than the pages of a periodical could secure to them. In no department of physiology, perhaps, has such remarkable progress been made of late years as in that which relates to the female generative system.

(a) *Vide* Bulletin Général de Thérapeutique, tom. xxxvii. p. 547, et seq.

For our own time was reserved the discovery of the paramount importance of the ovaries in the female economy, and of the predominant influence which they exercise over all the characteristics and peculiarities of the sex. The assigning to these organs their true and proper position in the female organism was, we repeat, an advance of great importance; it was in fact laying the foundation stone of the physiology and pathology proper to woman. The volume before us is a result of this grand discovery, and if the experience of practitioners establishes the accuracy of the pathological views which it contains, as we predict will to a considerable extent be the case, it will furnish a most striking example of the light which physiology sheds upon practical medicine.

We shall now proceed to lay before our readers some of the prominent points of interest or novelty contained in Dr. Tilt's work. Passing over twenty pages of introduction, which might very well have been omitted without in the least degree lessening the value of the book, we find, towards the conclusion of the "Prolegomenon," some useful and practical instructions upon the different modes of detecting ovarian disease by physical examination. Four methods are described:—I. Abdominal exploration, which is so well understood that we need say no more of it here than to quote the remark that, unless the swelling of the ovaries be considerable, it will not be discovered by this mode of exploration. II. "Exploration per vaginam." In effecting this the middle and index finger should be employed, and at the same time pressure is to be made over the hypogastric region, so as to depress the uterus and its appendages into the pelvic cavity; then, by raising up the vaginal cul-de-sac which surrounds the os uteri, we are enabled to estimate the amount of pain caused by pressing the swollen ovarium. Though at the risk of being charged with awkwardness, we cannot forbear declaring our belief that the recognition of ovarian disease by the manipulation just described is by no means so simple as Dr. Tilt would lead us to believe. Still it is a method that should never be omitted, particularly in the advanced stage of a case, as it will reveal to us whether any fluctuation be sensible through the vaginal walls, or not. III. "Rectal exploration." Dr. Tilt agrees with Löwenhardt (the proposer of this plan) and others as to the possibility of reaching the ovaries in their natural situation by this procedure. The most effectual way of performing the examination, and that which permits the finger to reach the greatest height, is to place the patient in the obstetric position, and make her draw her knees as near to her breasts as possible:

“ When introduced into the rectum the finger can generally attain and circumscribe half of the posterior surface of the uterus; and if not accustomed to this mode of examination, the medical attendant will esteem the healthy uterus to be morbidly swollen. The finger will also be able to detect any swelling of the broad ligaments, and likewise to feel the ovaries, even when they are not swollen, like a knuckle on either side of the uterus, seeming to spring from one or other of the sacro-iliac articulations, as Dr. Rigby has correctly stated. When its structure is healthy no pain is experienced on pressure of the ovary; but when it is inflamed, the patient often expresses by her features, that we touch the seat of the disorder. Pressure on the ovary also produces as much pain in the inguinal region as if that were the actual seat of the impact. If the ovary be much swollen and the abdominal parietes thin, it is possible, by pressing the ovarian region, to force the ovary against the finger; and this will frequently cause the patient to exclaim that we hold the complaint between our fingers.”

IV. “ Double touch” is a mode of exploration which combines the two last described, so that, the index finger being placed in the rectum and the thumb in the vagina, it is possible to embrace between them any intervening morbid growth. Dr. Tilt seems to regard this as a source of valuable information in some cases, especially where there exist moderate-sized tumours, not large enough to rise above the pelvic brim, and still small enough to escape identification by the finger in the vagina or rectum alone. He gives some examples in illustration of the value of this means of diagnosis.

This brief abstract of the contents of twenty-two pages will, we trust, be sufficient to convey a tolerable notion of the various modes to be employed for obtaining sensible evidence respecting the condition of the ovaries.

Of inflammation of the ovaries, our author admits but two forms,—subacute, which also includes chronic, and acute ovaritis. In chapters I. and II. he describes the morbid anatomy and causes of subacute ovaritis; and his observations evince a good deal of research and sound physiological reasoning. As the subject of retroversion of the womb, and the use of certain forms of pessary for its relief, are questions upon which even the leading members of the profession entertain very conflicting opinions, we may be excused for transcribing a passage which bears very forcibly upon them:

“ We agree with Dr. Hervez de Chegoin, that sometimes retroversion of the womb, by its pressure on the ovaries, may greatly irritate them; but we think Dr. Rigby has exaggerated the importance of this cause of ovaritis, and that in many cases the use of the stem-pessary, without curing the retroversion, prolongs ovarian and

uterine irritation. We have so often seen this to be the case, that, without denying the good results which may have followed the use of the stem-pessary in more skilful hands, we do not intend again to employ it. And when we remember that many of the uterine deviations and flexions are *congenital* (as M. Jobert de Lamballe has well proved), and therefore beyond the pale of treatment; or else of so long a standing that they cannot be permanently *redressed*; and that in the majority of cases they are perfectly *harmless* (a fact which has lately been brought into the strongest relief by Professor Paul Dubois, Hervez de Chegoin, and been received without contradiction in the important discussion on uterine disease now proceeding in the Académie Nationale de Médecine);—finally, when we consider the mischievous effects often entailed by the employment of the stem-pessary, and the fatal result it determined in the case reported by Mr. Bransby Cooper, we think our resolution is well founded, and, using the words of an anonymous writer, we are tempted to say ‘that it is scarcely consistent with right principle to seek a doubtful good by means which have been proved to be fatally dangerous even in well-skilled hands.’”

The symptoms of subacute ovaritis are such as we might *a priori* expect:—a dull pain in the ovarian region, often imperceptible when the patient is in a state of repose, but brought on by walking, riding, pressure on the side, or even by any sudden movement. The act of straightening the thigh upon the pelvis also increases the uneasiness, so that some patients cannot maintain an upright posture for any length of time without resting the foot of the affected side on a stool. Radiating from the ovarian region, pains of a heavy, dragging, sometimes severe nature, are felt across the loins, descending towards the thighs and fundament. These are distinguishable from other pains resembling colic, which depend on uterine contractions, and also from those superficial pains of a neuralgic character produced by reflex nervous action. They are seldom so acute, however, as to induce the patient to seek advice, and when she does she is frequently treated for uterine disease. Dr. Tilt further adds that sexual connexion awakens or aggravates these pains.

All these are what he calls the “common symptoms” of subacute ovaritis, but he is of opinion that “the same morbid lesions are attended with different accessory symptoms in different women, according as they react on a womb more or less excitable, on a nervous system differently prone to respond to irritation, or on fluids more or less differently vitiated by the unknown causes of scrofula, &c.” The consideration of these *possible* symptoms leads him to the recognition of four different *types* of the disease, viz., the amenorrhœal, the dysmenorrhœal, the

menorrhagic, and the hysterical. The attempt to refer, in a large number of instances, the cause of these derangements of menstruation to a lesion of one or both ovaries, impresses us as being the most novel and interesting feature of Dr. Tilt's work; and, within certain limits, it is a doctrine that harmonizes very beautifully with our present enlarged ideas of the functions and widely extended influence of the ovaria. Still following Dr. Tilt, we shall give, in as few words as possible, the distinguishing marks of each of these four phases or types of subacute ovaritis.

The "amenorrhœal type" is generally the result of subacute ovaritis attacking a woman previously to or pending the menstrual flow, in consequence of which it is arrested or prevented, and an inflammatory tendency originated. In such cases, the early and free application of leeches may not only relieve the pain, but bring about the suspended discharge, or cause it to return at the proper time. If, however, this desirable result does not ensue, the inflammatory disease may become established in the ovary, producing the symptoms already described, and may likewise be accompanied by chlorosis. The form of chlorosis so induced he regards as identical with that described by Frank, Wendt, Andral, and others, under the names of chlorosis florida, or chlorosis fortiorum, or chlorosis stenica; and which Cullen, Broussais, and Dr. Tilt have seen to come on in the midst of perfect health, apparently in consequence of sudden suppression of the menstrual discharge. He carefully distinguishes this from the form of chlorosis which arises gradually, and without being determined by any ovarian or uterine inflammation, and which, with P. Frank, he ascribes to "arrest in the normal evolution of the ovaries." 2. "Dysmenorrhœal type." That painful menstruation frequently depends on ovarian inflammation is a fact admitted by Oldham, Rigby, Ashwell, Coley, and others; and all observant practitioners must, we think, have noticed, in many of these cases, the existence of constant pain in the inguinal regions, aggravated at the time of the catamenial flow. The mode of action of subacute ovaritis in the production of dysmenorrhœa, Dr. Tilt tells us, is two-fold: first, it may do so "as a simple result of the process of morbid ovulation, and not by the agency of any appreciable inflammation of the womb, or of its neck, and without the appearance of any false membrane in the catamenia." This is what Dr. Tilt has seen, and believes to be frequent. Secondly, "Ovaritis," as Dr. Oldham has well shown, "often causes dysmenorrhœa by determining hypertrophy of the uterus, inflammation of its neck, and a diphtheritic exudation from its mucous surface." 3. "Menor-

rhagic type." Dr. Tilt candidly admits the impossibility of explaining, in the present state of our knowledge, why the lesion under consideration should, in certain cases, be attended with scanty menstruation, while in others it is accompanied by an inordinate flow. The latter result, he says, has generally been met with in women of irritable nervous constitution, in whom the uterus seems most liable to engorgement. In illustration of this type of ovaritis, a case is cited from the writings of Dr. Rigby. 4. "Hysterical type." Since the days of Hippocrates it has been the prevailing opinion amongst physicians that, somehow or other, hysteria originated in the generative organs; and as the uterus was considered to hold the first rank of importance in this system, so it was supposed to have the largest share in the production of the disease. Modern research, however, has shown that to the ovaries, and not the uterus, belongs this exalted position in the female sexual system. It is reasonable, therefore, that a corresponding change should take place in the pathology of hysteria, and that we remove its seat from the uterus to the ovaries. This, in fact, is what Dr. Tilt endeavours to do, and he strengthens his views by a variety of collateral evidence drawn from different sources. To give here even an outline of all his arguments would be quite impossible, and, in justice to him, none should be omitted; we can only recommend the reader to study them for himself. But we are free to confess that, although the author has succeeded in pointing out the existence of a frequent connexion between hysteria and ovarian irritation or inflammation, yet we cannot believe with him that hysteria is "always connected with ovarian irritation, and often depends on subacute ovaritis," for we frequently see marked hysterical symptoms come on and disappear in a manner that would almost preclude the possibility of their being the consequence of any inflammatory condition of the ovary; and, moreover, hysteria has been met with in the male sex. Nevertheless we do not at all wish to undervalue Dr. Tilt's researches. He has given a new, and, we doubt not, a profitable direction to the investigation of this most interesting subject; and even though subsequent inquiries may not confirm to the full extent what he has advanced, still he will be entitled to a large share of praise.

The next chapter deserves a careful perusal; it is on the "terminations of subacute ovaritis." These he reduces to two, sterility and uterine inflammation. Subacute ovaritis may, he says, produce sterility, "1, by accelerating the shedding of imperfectly developed ova; 2, by the retention of blighted ova; 3, by impeding their transmission from the ovaries to the ute-

rus." This seems intelligible enough, and not opposed to any of our present ideas respecting the functions of these organs. But that ovarian inflammation should be a cause of uterine inflammation, appears at first rather irreconcilable with established notions. And yet we are in justice bound to acknowledge that, to our judgment, he has made good his position, though the cases exemplifying it may not be of frequent occurrence in practice. The treatment of subacute ovaritis, as laid down by Dr. Tilt, may be briefly described. It consists in the free use of local depletion, followed by blisters and counter-irritation with antimonial ointments, together with strict attention to the state of the bowels, and the occasional employment of purgatives, or, what is more beneficial, tepid enemata. Medicated mercurial inunctions, and the tepid bath, are favourably spoken of; and abstinence from all sexual intercourse is strictly enjoined, so long as there are any signs of ovarian inflammation. Whilst these measures are being employed, which should be during the interval between the menstrual epochs, the general treatment of the patient should be such as to invigorate the constitution without increasing the local irritation and determination of blood to the pelvic organs. The protection of the feet from damp is of course a point of great importance, but what is of still more consequence, and much dwelt on by Dr. Tilt, is to protect the pelvis effectually from cold, by the use of drawers.

In the management of the several *types* of this affection, it does not appear that the treatment requires to be materially altered, the same general rules applying to each. The amenorrhœal type, even when accompanied by its frequent attendant, chlorosis, still demands the local abstraction of blood. Dr. Tilt cautions the practitioner against confounding the two forms of chlorosis before spoken of, as the remedies that would be advantageous in the one aggravate the other.

In reference to the pathology of acute ovaritis Dr. Tilt truly says he treads on less disputable ground than when speaking of the subacute form. That variety of the disease, in particular, which occurs as a consequence or a concomitant of the puerperal state, is well known to physicians through the writings of Dr. Doherty, Dr. Churchill, and others. In chapters VII., VIII., and IX., the symptoms, terminations, and treatment of acute ovaritis are fully and ably discussed; and numerous cases, chiefly from continental or English authors, are inserted for the purpose of illustration or proof. When suppuration has once taken place in the inflamed ovary, he thinks resolution is rarely to be expected; and of the various ways by which the matter may es-

cape, the most frequent and least dangerous mode is through the vagina. An early evacuation of the contents of the abscess is recommended, and for this purpose the spot to be selected must, of course, be very much regulated by the circumstances of each individual case; but Dr. Tilt gives a preference to puncture from the vagina, where this is at all practicable.

We have now concluded our analytical notice of Dr. Tilt's book, and it only remains for us to express in general terms our estimate of its merits. That it contains many original views regarding the pathology and treatment of a numerous and important class of cases, the reader has been already made aware. How far they will bear the test of experience, we do not take upon ourselves to define, though inclined to believe that they have much foundation in truth. We sanguinely hope and expect, however, that one great benefit to science and humanity may arise from the publication of this volume, namely, that it will help to remove the too exclusively local and mechanical ideas now so widely prevalent respecting certain diseases of the womb, and which have led to a system of practice, not only of questionable efficacy, but repugnant to that natural feeling of delicacy which, for the wisest of purposes, has been implanted in every female mind. This is a point upon which much has been said and written, both by the opponents and advocates of the speculum, but neither, we think, have placed the subject in its true light. Dr. Tilt remarks: "With regard to the indelicate in medicine, it depends solely on the intentions of the operator, and never on the operations it may be necessary to perform." No doubt this may be true in the ordinary acceptation of the word "delicate;" but we contend that the operations alluded to cannot be performed without to a certain extent doing violence to that chaste sentiment of modesty or delicacy,—call it which we may,—that forms the noblest ornament of a woman's character, and the best preservative of female purity. To treat this feeling with the utmost respect and consideration is the sacred duty of the physician, as much so as it is to keep secret the diseases and circumstances of his patients: he who acts otherwise degrades his profession, and is morally unfit to practise it. Before having recourse to the vaginal speculum, then, he should satisfy himself that there exists an imperative necessity for his doing so, and that benefit is likely to result to the patient from the examination. These are the only conditions which, in our mind, justify the practice; and we do not hesitate saying, that, where they are disregarded, this most valuable means of diagnosis becomes an agent of demoralization.

In a former Number of the present series of this Journal(a), we took occasion to express our convictions that the vaginal speculum was often most unnecessarily employed; and even threw out the hint that a monograph on its abuses was much wanting. We rejoice to see that this call has in a manner been responded to, and that other physicians, both of weight and authority, are beginning to entertain the same opinion, and to look beyond the os and cervix uteri for the causes of disease in these parts. Already a reformation somewhat analogous to what Abernethy effected for surgical diseases, has commenced; and we feel assured that Dr. Tilt's work will powerfully co-operate in helping it forward, and in placing the pathology and therapeutics of diseases of the female generative organs upon a sound and permanent basis.

Atalektasis Pulmonum, or Closure of the Air-Cells of the Lungs in Children. By GEORGE A. REES, M.D. London: Highley, 1850. 12mo. pp. 42.

UNTIL within a recent period, the condition of the infantile lung, of which the work before us treats, was imperfectly understood. In 1832 Joërg first pointed out its true character, and showed that it was an imperfect expansion of the lungs, in fact, a prolonged state of the intra-uterine condition of these organs. His original memoir was translated by the late Dr. West, and appeared in the fifth volume of our first series. The views he brought forward were not appreciated until the exact nature of the affection was elucidated by the experiments of Bailly and Legendre, as we find that in a paper published by Dr. Rees in the Medical Gazette, in January, 1839, to which he alludes in his present little work, the opinion that this affection of the lungs was chronic pneumonia is prominently inculcated. This state of the lungs has been called *atalektasis*, and our author seems to wish to claim for himself the selection of this name. Joërg, however, first used it, and was followed in the adoption of the term by Hasse, in his *Pathological Anatomy*. We cannot compliment its originator on the judgment displayed in his choice of the nomenclature; he has added to that long list of "hard names" so frequently met with in medical writings, which bewilder the student, are burdensome to his memory, and should not be adopted in circumstances such as the present, when ordinary language

affords so clear an exposition of the nature of the affection, as the words "closure of the air-cells in children" convey.

Dr. Rees describes two forms under which this condition of the lung exists: first, as a defect from the hour of birth; secondly, occurring as a disease after birth. Altered movement of the ribs in respiration is, according to the author, the pathognomonic symptom common to both forms; and the character of the movement is, that, during the inspiratory effort, the ribs move inwards and backwards towards the mesial line of the trunk, instead of outwards as in ordinary respiration. A peculiarity in this induced deformity of the chest, in contradistinction to that of a strumous character, is thus described by the author: "The point of contraction then takes place at a little distance on either side of the sternum, at the line of junction between the ribs and their cartilages; a groove more or less developing itself there, which produces a channelled appearance on either side of the sternum."

As the necessary consequence of imperfect respiration, cough, dyspnoea, emaciation, and deformity of the chest are the symptoms observed. On *post mortem* examination, the portions of the lungs found to be most frequently affected are the lower lobes and the middle lobe of the right lung; these present a dark purple colour, are solid, do not crepitate on pressure, and sink in water.

We think that Dr. Rees places too much reliance on peculiarity in the movements of the ribs as a diagnostic mark of the first form of atelectasis. In the early stage of infantile life, the respiration is principally abdominal, and we can understand the existence of this disease to so great an extent as necessarily to interfere with healthy function, yet to be incapable of being ascertained by observation of the mere movements of the thorax. He does not allude at all to the aid derivable from auscultation; and although we are not disposed to place implicit confidence on this assistance to diagnosis in such cases, yet without its use the observer can only guess as to whether the lungs are fully expanded or not.

In the great majority of cases, asphyxia in new-born infants, arrived at the full period of gestation, depends on causes unconnected with an abnormal condition of the lungs: the character of the labour disturbing the circulation in the child, or causing pressure on the brain, will retard respiration for a period, although the lungs may be in a state of perfect aptitude for that function, the susceptibility to the stimulus of the air being only weakened, not destroyed. Although, therefore, closure of the air-cells may continue for a time after birth, such condition

ought only to be regarded as an accidental circumstance; and the first case detailed by Dr. Rees presents an example of this class. A portion of the lung remaining in the foetal state after respiration has been established in the remaining parts is the true characteristic of atalektasis; and where this phenomenon is absent the disease cannot be said to exist.

This line of demarcation should be kept in mind by the accoucheur, because it is well known that, however unpromising appearances may be in infantile asphyxia at the hour of birth, well-directed efforts to establish respiration sometimes succeed after a much longer period of time than is generally supposed. In our own experience forty minutes elapsed in one instance before the first attempt at inspiration was made, and yet respiration was eventually established; the child lived, and became a thriving infant.

The treatment recommended by Dr. Rees for asphyxia in new-born infants is far too much generalized. The abstraction of blood from the cord and the use of the warm bath are by no means applicable to all cases, and the appropriate adoption of these remedies requires sound judgment on the part of the practitioner.

In relation to the treatment of the second form of the disease, the author, with excellent judgment, remarks, that it must be principally hygienic; for, occurring, as it chiefly does, amongst the most miserable paupers of crowded and ill-ventilated cities, little benefit can be expected from medical treatment while the patient continues exposed to the chief influential cause in the production of the malady. Change of air to a healthy locality is, therefore, indispensable. We must refer our readers to the work for an account of the therapeutic means suggested for removing this condition of the lungs. They may be summed up as being directed to promote the action of the skin and kidneys, combined, as far as possible, with the exhibition of tonics.

We may observe in conclusion, that this little work is written in a clear and easy style, and presents a concise compilation of the pathology of an interesting form of disease, which deserves the attention of the physician both in a practical and a medico-legal point of view.

The Principles of Surgery. By JOHN A. ORR, A.B., F.R.C.S.I., one of the Surgeons of the City of Dublin Hospital. Dublin: Fannin & Co., 1850. 12mo. pp. 496.

The Practice of Surgery. By JOHN HASTINGS, M.D., U.S.N., Lecturer on Surgical Anatomy and Operative Surgery. With numerous Illustrations. Philadelphia: Lindsay & Blakiston, 1850. 8vo. pp. 479.

IN the progress of medical science we may observe certain periods which recur with tolerable regularity, when, after special original investigation and individual research have collected in our Journals and in the Transactions of our various medical associations, a considerable amount of new matter, and made important additions to the general stock of knowledge, it becomes necessary to collate, classify, and bring together, in a form convenient for reference, the several results which have been thus obtained by observers who have seldom acted in concert, whose labours have in few instances been devoted to the pursuit of a common object, and between whom a difference of language frequently raises a barrier of separation wider than that which the Atlantic forms between the investigators of medical science in Europe and their brethren of the new world. In the history of law, the process of *codification* is somewhat analogous; and, whether in law or medicine, those to whom is committed the task of compiling, classifying, and collating the labours of others, must be considered as having undertaken an honourable and meritorious duty, which, though it be looked upon as secondary in importance and rank to that of original research, equals it at least in utility, and is entitled to praise in proportion to the excellence of the work. While, then, we consider it but just that the first place of honour should be given to the authors of important monographs and original memoirs, we reserve a full and generous praise for those who have well accomplished the task of compilation; at the same time that the lash of our retributive criticism shall fall heavy on that class of *exploiteurs* who disgrace the name of author, and, instead of this honourable title, merit only that of *bookmakers*.

Starting with these principles then, we shall find that the works before us must not be examined as if they laid claim to originality,—to this neither of them raises any pretensions; we shall, therefore, proceed to the inquiry as to how they have severally fulfilled the necessary indications; how far they may

be looked on as giving a just estimate of the present condition of surgical science; and, finally, how far we, in our critical capacity, can undertake the serious responsibility of recommending them to the student and the practitioner.

In Ireland, clinical surgical observation has been actively carried on, and many important monographs have issued from the Press, during the last three quarters of a century. From the elder Dease to our own days, the work has been passed from hand to hand, and many a goodly volume has been given to the light from the Irish Press; but we believe it may be said of all without exception, that their authors devoted their attention to the investigation of special subjects, or at most took up particular departments of surgery; and with what success, we appeal for proof to the frequency with which citations are made, in both English and Continental works, from Irish writers. Mr. Orr has, we believe, been the first Irish surgeon who has undertaken anything like a systematic work or treatise which should embrace all departments of surgery. Of the difficulty of the task which he set before himself, but one opinion can be entertained; and most persons will, perhaps, agree with us in saying, that this talented young author could have easily chosen an easier path to fame, one beset with less difficulties, and perhaps more speedily conducive to professional success. However, that the task remained to be done, and that it awaited a workman, we acknowledge. For the manner in which the work has been achieved we shall say more anon.

The object which the American surgeon, Dr. Hastings, has aimed at, he states to be, "that his work may serve as a *guide-book* to the *student* and young practitioner in surgery;" while "his chief endeavour has been to include all that is essential, with as much brevity as accuracy and clearness would allow." Let us see how the countryman of Physick acquits himself.

Both our authors commence with the subject of inflammation, which they have treated pretty much *in extenso*; but, notwithstanding that some theoretical considerations have been entered into, neither has favoured us with anything like a detailed account of the modern views on this subject. Dr. Hastings presents his readers with a tabular view of the results arrived at by M. Lecanu, and MM. Becquerel and Rodier, in their analyses of healthy blood; but surely it is a singular omission, as the subject has been entered into, not to have given some analysis of diseased blood; for we apprehend that it is from a comparison of the healthy and diseased conditions of this fluid that

all useful deductions must be drawn. Whatever value the analysis of the healthy blood by itself may have in a physiological, it can have but little in a pathological point of view, unless placed side by side with the results of the analysis of blood in some abnormal conditions.

The management of inflammation, and the subjects of abscess, ulcers, and erysipelas are next discussed, and nearly in the same order, by both authors. The narrow limits which they have prescribed to themselves prevent either from treating these important topics at the length they deserve; but we have no hesitation in saying that Mr. Orr has done them more justice than his transatlantic competitor, for he has certainly evinced the greater judgment in the selection of his authorities and methods of treatment, and having given himself a little more space, he has been thus able to enter more fully into particular indications. As contrasting the relative merits of the two authors in this particular, we would refer our readers to the section on "Abstraction of Blood,"—Orr, p. 28, *et seq.*; "Blood-letting,"—Hastings, p. 40, *et seq.*; "Erysipelas,"—Orr, p. 65, *et seq.*; and the same subject as treated by Hastings, p. 51, where this important topic is summarily disposed of in a little more than two pages by the latter author, without any mention of the writings of Desault, Lawrence, or Dupuytren, or, indeed, any authorities except Dr. Gibson and Mr. Liston.

Passing over the section on wounds (including gun-shot wounds), and tetanus, which are very briefly considered—the latter in about two pages,—we find the second division of Dr. Hastings' work opens with the subject of strangulated hernia, which is liberally illustrated by woodcuts. Of the manner in which the several operations are described we have little to say, except that the space devoted to them is much too limited to allow of their being done justice to even by the most accomplished pen; and in this particular, again, the work of Mr. Orr may be contrasted favourably with that of Dr. Hastings. While examining the woodcuts presented to us in the work of the latter, we have been struck with the remarkable resemblance they bear to those with which we had been familiar in the books of Liston and Fergusson; and having been at the trouble of instituting a careful comparison, we have no hesitation in saying that, with a very few exceptions, Dr. Hastings has illustrated his work by a wholesale plagiarism of the engravings which are to be found in the treatises of the above-named English surgeons; indeed we entertain serious doubts as to whether there is one single original woodcut in the entire book. Nor is this plagiarism in the least degree excused by the great display of

ingenuousness with which we are informed in the preface that "the following authors have been freely consulted and used,—Sir A. Cooper, Fergusson, &c., &c.," for it is only incidentally that any mention is made in the text, in a very few instances, of the source from which the cut has been borrowed. Such practices cannot be too much reprehended. If a lecturer on operative surgery in the great city of Philadelphia had nothing to give to the medical world but a *plat réchauffé* of the labours of his European contemporaries, better for the honour of the great nation to which he belongs that he had never conceived the idea of becoming an author.

We gladly turn from this plagiaristic compilation to the work of Mr. Orr, who, in his first essay at authorship, has really proved himself worthy of far other fellowship. In the Second Part of his book he has entered into the subject of fractures at very considerable length; and the chapters on "General Doctrine," "Reunion of Bone," and "Ununited Fracture," will be found to contain a succinct account of many of the more important opinions on these several topics. The next subject taken up is that of "Particular Fractures," in which the best methods of diagnosis and the indications of treatment are considered; but we cannot avoid expressing our opinion that the observations on Colles' fracture of the radius are hardly as complete as we could wish; and we must say that the omission of Dr. R. W. Smith's name in connexion with this subject was hardly to be expected in the writings of an Irish surgeon. We are sorry to find that the same forgetfulness is manifested in the description of *congenital luxations of the humerus*; while in treating of the injuries of the neck of the thigh-bone and of neuroma, the works of Mr. Smith have been pretty freely made use of.

Of the manner in which Mr. Orr has treated the several subjects considered in his work, we can truly say that, notwithstanding the limited space which he has allowed himself, he has in general been successful in giving a clear, though of course condensed, account of the various opinions which have been advanced from time to time, either in systematic works or special monographs. The indications of treatment are pointed out with perspicuity and judgment; but we do feel it necessary to say that to us it appears that Mr. Orr would have done more justice to his own powers as a writer had he undertaken to give a more extended and copious treatise on the principles of surgery. We have ever looked with feelings of distrust on the works which have issued from the London Press in the form of manuals, though it is true that the books of Fergusson and Taylor

have lent this form of publication a degree of lustre which has been reflected on many who have not proved themselves worthy of the companionship of the authors just named. If, therefore, an extensive issue of systematic works should be contemplated by Irish authors, we would counsel them to avoid a form which throws mechanical obstacles in the way of ability, necessitating a curtailment and condensation incompatible with great excellence of style or matter.

There is one feature in the work of Mr. Orr which we would wish to see more extensively imitated by his successors, namely, the appending to each section or chapter a list of the authors whose works have been consulted, or from whose monographs more detailed information may be obtained by those engaged in investigating any special form of disease. In examining the bibliographical references to his work, however, we have been impressed with the fact that the author has been least just to his Irish contemporaries and predecessors. We have already had occasion to call attention to the omission of all notice of Professor Smith's name in connexion with subjects which have received extensive elucidation from his researches; and in the chapter on Diseases of the Eye we have looked in vain for the name of Wilde amongst the several authors who have been consulted, an omission which we consider the more reprehensible, inasmuch as the name of another Irish surgeon occurs in it very frequently. In making this remark we beg it to be distinctly understood that we have no intention of instituting any comparison between the labours or the merits of the two observers in question. Had Mr. Orr referred to and quoted from the writings of Professor Jacob even more fully and freely than he has done, we should only say that he had done that which the great reputation and the important contributions to ophthalmic surgery of his distinguished colleague fully merited; but we are clearly of opinion that any treatise on diseases of the eye from which the name of the well-known oculist of St. Mark's Hospital, whose writings have so often adorned the pages of both the present and former series of our Journal, is omitted, has failed to present to the world a just view of the condition of ophthalmic surgery in Ireland. The name of Mr. Wilde will be found once only in Mr. Orr's book, amongst the references appended to Chap. XII., On Diseases of the Ear. That this name should not be met with in so imperfect a work as that of Dr. Hastings surprises us but little, but it certainly behoves an Irish aspirant to fame to be just, if not generous, to his own countrymen.

We regret that we have been compelled by that sense of

justice which should always guide the impartial critic, to make these strictures, the more especially as we believe that the fault is one more of omission than of commission, requiring merely to be pointed out for correction in future editions. The book, taken as a whole, is one that cannot fail to add character to our Dublin school, and affords additional proof that we have among us young men of patient research and laborious habits, who will not permit the fame we have already acquired throughout the world to droop.

The Treatment of Secondary, Constitutional, and Confirmed Syphilis, by a safe and successful Method; with numerous Cases and Clinical Observations. By LANGSTON PARKER, Surgeon to the Queen's Hospital, Birmingham. London, Churchill. 1850. 12mo. pp. 112.

TEN years ago, Mr. Parker published a work, entitled, "The Modern Treatment of Syphilitic Diseases," and in six years afterwards a second edition of it appeared, in which he drew attention to the cure of all forms of constitutional syphilis by means of moist mercurial vapour. In the Preface to the present volume the author states that he has been extensively engaged in the treatment of syphilis, both in hospital and private practice, but more especially in the latter; and that the result of his experience is, that the treatment of syphilis by what he denominates the "mercurial vapour bath," that is, surrounding the patient with an atmosphere of mercurial vapour in a moist state, is more successful and less hurtful than the mercurial treatment conducted in the usual way; and he moreover affirms that the mercurial vapour bath does not produce mercurial fever, salivation, ulceration of the mouth, erythismus, debility, or any form of cachexia, so common from prolonged ordinary mercurial treatment; further alleging that it possesses the superior advantages of effecting speedy and permanent cures, without confinement and without risk.

The following is the manner in which Mr. Parker uses his mercurial vapour bath:

"The patient is placed on a chair, and covered with an oil-cloth lined with flannel, which is supported by a proper framework. Under the chair are placed a copper bath containing water, and a metal plate, on which is put from one to three drachms of the bisulphuret of mercury, or the same quantity of the grey oxide, or the binoxide; under each of these a spirit lamp. The patient is thus exposed to the influence of three agents, heated air, common.

steam, and the vapour of mercury, which is thus applied to the whole surface of the body in a moist state. After the patient has remained in the bath from five to ten minutes, perspiration generally commences, and by the end of twenty or thirty minutes, beyond which I do not prolong the bath, it is generally excessive."

The lamps are then removed, and the body well dried; the patient is suffered to repose for a time, during which he drinks a cup of warm decoction of guaiacum, sweetened with syrup of sarsaparilla.

"Each particular case would require a greater or less modification of this kind. The form of mercurial employed is also of consequence; in skin diseases the bisulphuret is to be preferred; in disease of the throat or nose, the grey oxide or binocide is better, because the patient can bear the head immersed without sneezing or coughing, which he cannot do when the bisulphuret is used."

Mr. Parker states further on that the plan he is advocating does not require that the patient should forego his ordinary occupation, or that he should be confined to the house during its use; at the same time he admits that its effects would be accelerated by confinement to bed, or to a couch in a moderately warm room. The author conceives that the moist mercurial vapour, if employed as directed by him, is capable of curing the disease without the assistance of the internal administration of mercury; but he says that the cure is generally expedited by exhibiting it in small quantities. He often combines his external treatment with the exhibition of sarsaparilla and guaiacum; and he says that when the internal use of mercury is required, it is surprising how small a quantity will answer when the patient is using the mercurial vapour bath.

"The mouth is commonly affected after using four or six baths, more quickly if the head be immersed, which is better. The patient can bear the head in the bath for five, ten, or even twenty minutes without inconvenience; patients vary in this particular, and it depends very much on the form of mercurial employed. The gums, when affected, are red, elevated, and tender; but the baths never produce salivation, or ulceration of the mouth."

Mr. Parker appends thirty-two cases of secondary syphilis treated by the mercurial vapour bath, the cures of which are stated to have been rapid and permanent.

On reading the title-page of Mr. Parker's work we were naturally led to expect a novel and successful mode of treatment proposed for the cure of obstinate cases of secondary syphilis; but, after a careful perusal of the thirty-two cases recorded by the author, we are not a little disappointed, for we find that

the treatment by fumigation was, in the bulk of cases, combined with the exhibition of medicines which have already acquired a high reputation in syphilitic diseases, such as the hydriodate of potash, iodide of iron, sarsaparilla, guaiacum, corrosive sublimate, &c.; and we cannot but think that the beneficial effects of Mr. Parker's treatment are, to a great extent, due to what he would appear to look on as mere auxiliaries. The great objection to the treatment by fumigation is, that when it is conceived necessary to use it, so as to produce its constitutional effects, it becomes a very difficult matter to regulate its action. This we know from personal experience; for we have been in the habit of using mercurial fumigation in certain local forms of syphilis with advantage, in the manner recommended by the late Professor Colles. His method may be conducted in an easy and comfortable manner by directing the intended dose of cinnabar or grey oxide of mercury to be mixed with melted wax, and, with a cotton wick, to be moulded into a small candle. This mode of using mercurial fumigation was introduced into practice by the late Professor Colles, and hence these candles are now familiarly known to us as "Colles' Candles." One of these may be attached to a common plate, and then burned under a curved glass funnel, which is to be raised about an inch from the plate. By conducting the process in this way we are certain that all the mercury is consumed, and the fumes are thus brought more gradually into contact with the diseased surface. This mode of treatment, when applied to the sound skin only, is seldom followed by ptyalism, but if it be directed upon an ulcerated surface it generally produces that effect; when applied to an ulcer in the throat, or in such a manner as to be *inhaled*, it will often excite a smart degree of salivation in three or four days; and we have seen ptyalism with extensive ulceration of the gums and tongue so unexpectedly established, although the greatest attention was paid with regard to the quantity used at each time, that we now seldom apply it to the throat, or in such a way that inhalation of the fumes can take place. It is, therefore, not improbable that a wholesale immersion in a mercurial bath might be followed by similar results, which no well-informed surgeon would wish, in the present day, to encounter in a broken-down patient, labouring under secondary syphilis.

On the Use and Abuse of Alcoholic Liquors in Health and Disease. Prize Essay. By WILLIAM B. CARPENTER, M. D., F. R. S., &c. &c. London, Gilpin. 1850. Royal 12mo. pp. 283.

Temperance and Total Abstinence; or, the Use and Abuse of Alcoholic Liquors in Health and Disease. By SPENCER THOMSON, M. D., &c. &c. London, John Churchill. 1850. Post 8vo. pp. 184.

Essay on the Use of Alcoholic Liquors in Health and Disease. By JOHN CHADWICK, M. D., &c. &c. London, Simpkin and Marshall. 1849. 12mo. pp. 123.

THE medical history of alcoholic liquors, illustrating their properties and effects, "their uses and abuses," has long been a desideratum in the literature of our profession. This is the more to be regretted as abundant and valuable materials for a classic work upon the subject exist in the physiological and chemical writings of Prout, Liebig, Percy, and others, and in the various treatises on dietetics and materia medica. These, however, have been hitherto scattered leaves, no successful attempt having been made to bring them together. It was, therefore, with feelings of hope that this unoccupied corner of medical science was at length filled, that we saw before us so many essays emanating from members of the profession proposing to fix the basis on which alcoholic liquors are hereafter to rest.

On regarding, however, the reasons for publication assigned by the respective authors, we confess that we were somewhat discouraged to find that the above treatises were written in competition for a prize; not that we would, by any means, imply that such "præmia laudis," when emanating from learned societies, are not just incentives to diligence and honourable ambition; but that, in our opinion, the prudence of individuals whose bias is either known or may be conjectured, proposing prizes on doubtful subjects, is questionable. In such cases the suspicion *will* arise that it is not fair discussion which is sought, but an *ex parte* treatise; and if we find an essay, however valuable otherwise, in which the total abstinence principle is argued with the warmth of an advocate, honoured under peculiar circumstance with the prize, we feel that, however satisfied the donor may be with the award, the profession will never believe that the medical history of alcoholic liquors is thereby rendered an accomplished fact.

We learn from the prefaces to the different treatises that the origin of the temperance prize was as follows. In the beginning of January, 1848, a prize of 100 guineas was offered for the best essay "On the Use of Alcoholic Liquors in Health and Disease." The advertisement was signed, on behalf of the donor of the prize, a gentleman of the name of Eaton, by Messrs. Gilpin and Beggs, the latter of whom was secretary of a temperance society, and a writer of pamphlets in favour of total abstinence. It was stated that the essays must contain answers to certain questions which we may briefly describe as determining the effects of alcoholic liquors on the healthy human system; the evidence for their necessary use or the reverse, as articles of ordinary sustenance; the special modifications, if any, supposed to require them; and, lastly, their employment as medical agents. After stating some of the forms to be observed, the period of twelve months, according to Dr. Chadwick's account, was assigned for the composition of the essays, the 31st December, 1848, being the last day on which they could be received. In the second advertisement, issued in the month of April following, a repetition of the same was put forth, the only difference being the addition of the names of the adjudicators, viz., Dr. John Forbes, Dr. G. L. Roupell, and Dr. Guy; certainly distinguished names, but some of whom, at least, had pronounced in favour of the temperance movement. Several of the candidates, it would appear, sent in their manuscripts, and were patiently awaiting the result, when a new advertisement appeared, on December 21st, just ten days before the final day of delivery, postponing for nine months the period of adjudication, on the ground of sufficient publicity not having been given, and announcing to the candidates that their manuscripts would be returned if required. Now we cannot but consider that such an alteration as the above in the conditions of a prize, already twelve months announced, was a breach of contract, and that the writers who had sent in their essays at the time originally stipulated were unfairly treated. Two of the essayists, Dr. Spencer Thomson and Dr. Chadwick, declined to avail themselves of the permission, upon just grounds; the former stating that his medical avocations did not permit him to re-open the question, the latter withdrawing his essay altogether. Whether the essay of Dr. Carpenter, to which the prize was adjudged, had been sent in at the first-mentioned time, we cannot say, but it is curious that in the advertisement contained in his book, and which is dated April, 1848, the 30th day of September, 1849, is substituted, without explanation, for the time originally specified. If it had not, Dr. Spencer

Thomson, to whom the second place was assigned, has still stronger grounds for dissatisfaction at a postponement which deprived him of the well-earned reward of his labours.

Not wishing to occupy the time of our readers with any farther comment upon the history of the temperance prize, we shall proceed to lay before them a short analysis of the published essays, and shall follow the divisions of the subject as proposed by the donor: to this the writers have adhered, though the respective questions have received different degrees of consideration.

The first question is,

What are the effects, corporeal and mental, of alcoholic liquors upon the healthy human system?

In discussing this question it is of importance, first, to ascertain to what class of agents alcoholic liquors are to be referred; and accordingly we find that, in the three works, they are regarded, in accordance with the commonly received view, as general stimulants. We find, however, that some difference of opinion upon their degree of action as such exists. Thus, Dr. Thomson classes them under the head of extraordinary or occasional stimuli, which he defines to be "such as generally produce a certain amount of temporary exalted action, either of body or mind, or of both, not only without actual injury, but with positive benefit." These extraordinary stimuli differ from the class of ordinary stimuli in this, that "the regular, unceasing action of the latter is necessary for the preservation of sound health, both of body and mind," while the former, though beneficial when moderately used, are not essential to mental or bodily health. Without stopping to criticize this division, we come to his third class, which he calls, rather vaguely, "superfluous stimuli," but which, in our opinion, would be better called abused stimuli, as they comprehend not merely the former classes when enjoyed more than enough, but when their ill use has turned to positive detriment. From Dr. Thomson's opinion that these agents, when used temperately, are able to produce a temporary increase of power in the system, attended with benefit, he would appear to regard them in such cases as coming under the head of tonics. Dr. Carpenter disbelieves that they *ever* have tonic effects; but we confess that we are not convinced by his mode of reasoning upon this subject. From the effects of alcohol, when applied in a more or less diluted form to the web of a frog's foot, he argues that corresponding conditions occur in the human stomach from the ingestion of alcoholic liquors. As these, "when applied to the living tissues in a sufficiently dilute form, exalt for a time their

vital activity, to be followed, however, by corresponding depression," he observes, "that we are justified in regarding alcohol as belonging to the class of *stimulants*, and as subject to the laws of their operation." He proceeds, however, to observe that "when alcohol, in a state of sufficient concentration to act more potentially," is applied to the frog's foot or the human stomach, "its depressing effect is manifested *without any previous stage of excitement*." Now we doubt that if alcohol in a concentrated form and a large dose be capable, as it is proved to be, of suddenly lowering and even extinguishing the *vis vitæ*, it is correct in such a case to call it a stimulant. It certainly gives us rather a vague notion of a stimulant to define it to be an agent which sometimes depresses without stimulating. On the other hand, as it would appear from the experiment on the frog's foot that depression always ensues upon stimulation, and as wine and other alcoholic liquors are frequently given in fever without any such depression being visible even to the eye of a total abstainer, Dr. Carpenter comes to the conclusion, apparently, that alcohol is, in such circumstances, no stimulant at all; for it is plain that it does not depress, or the depressing effects of the fever would be increased, to the extinction of life; and it does not, according to his views, stimulate, for "there is an entire absence of stimulating effects." A stimulating agent which neither stimulates nor depresses is certainly a novelty in therapeutics, if not in nature. The truth seems to be that Dr. Carpenter, in his anxiety to deny that any, even the mildest form of alcoholic liquor, may, under certain circumstances, exercise upon the system a *tonic* effect, loses sight of the fact that alcohol, like other agents, at suitable times, often acts *relatively*. When used in small quantities by persons in ordinary health and after, say, a dinner of animal food, it is not as yet disproved that it may, especially when aided by the sparkle of wit and the smile of good humour, act with tonic effect; at least if the rule applied to stimulants, of being followed always by depression, hold good; as such an effect, if at all occurring, is too slight to be apparent. When the bounds of moderation are passed, then alcohol becomes a true stimulant, its exciting effects being followed by a corresponding depression. In still larger quantities it approximates to a new class of agents, the tendency to sleep and lethargy which follows inducing a resemblance to those substances belonging to the class of narcotics. Finally, in a highly concentrated form and large amount, alcohol acts as an acro-narcotic poison, "which tasted slays all senses with the heart," coma and death following it after a variable period of time.

The arguments adduced for the purpose of determining the influence of alcoholic liquors in causing disorder or lesion of the healthy human system are drawn from sources which possess various degrees of weight. These are, first, the effects produced by alcohol upon dead tissues and fluids. Secondly, experiments on animals. Thirdly, observation of the symptoms during life and the appearances on dissection in cases, where death was either immediately or remotely imputable to alcoholic liquors. Fourthly, the actual pathological effects produced by alcohol upon the human stomach during life, as witnessed and described by Dr. Beaumont in the case of St. Martin. It must be recollected that all these arguments bear testimony only to the abuse of alcoholic liquors; but they are employed by teetotallers as *quam proxime* applicable to their moderate use when prolonged. Whether we can argue similarly from the injurious effects arising from other stimuli more familiar to man, such as heat and cold, light and electricity, when augmented beyond endurance, to a negation of their beneficial results in the ordinary course of nature, we must leave to them to decide.

In reference to the first class of arguments, viz., "the influence of alcohol on the physical, chemical, and vital properties of the animal tissues and fluids," we think objections may be fairly made, when it is recollected that the principle of life so modifies the effects of agents, that contradictory results sometimes accrue from the action of the same substances upon the dead and living tissues. To give an example:—alcohol is justly described by our authors as exercising an astringent and corrugating influence upon the softer tissues placed in it after death; but if from this we should conclude that the use, or abuse, of alcoholic liquors, always corrugates and hardens the human stomach while living, we shall be in error, as the results of dissection show it to be in a softened state. Again, if a portion of the brain be kept for a time in alcohol, it is hardened and whitened; and, probably misled by this fact, Dr. Carpenter states, that the appearance of "the substance of the brain after death from alcohol is unusually white and firm, *as if it had lain in alcohol for an hour or two.*" This statement is certainly not borne out by the authority of Dr. Ogston, to whom he refers. We have examined his interesting paper, published in the fortieth volume of the Edinburgh Journal, and we find that, as we were prepared from our own experience to expect, the brain is described as firm, but in every case dotted in its interior with blood. "We find," says Dr. Ogston, "dark blood in the veins and sinuses, or even in the

substance of the brain." This may seem hypercritical, but it is necessary to notice it, as this supposed change in the physical qualities of the brain serves Dr. Carpenter as a foundation for one of his theoretical deductions. Thus, in commenting on the circumstance of alcohol having been found after death caused by it, in greater relative abundance in the brain than in the blood, he concludes that "this fact is one of fundamental importance, as showing us how directly and immediately the whole nutrition and vital activity of the nervous system must be affected by the presence of alcohol in the blood; the alcohol being thus specially drawn out of the circulating current by the nervous matter, and incorporated with its substance in such a manner as even to change (when in sufficient amount) its physical as well as its chemical properties." This whitening, therefore, of the cerebral substance, from the astringent effect of the incorporated alcohol upon its vascular tissue, does not exist except in the imagination of Dr. Carpenter.

Another circumstance on which he reposes much faith is the chemical effect of alcohol upon soluble albumen in effecting its coagulation, and thence the vital effect upon "the solidifiability" of the fibrine. Thus, he states "that some such physical change (meaning coagulation) must always take place in the walls of the stomach whenever alcoholic fluids are introduced into it; and in the soft tissues of the body at large wherever alcohol has found its way into the current of the circulation." But, it may be inquired, why does not alcohol coagulate the blood on mingling with it? like the poison—

" Whose effect
Holds such an enmity with blood of man,
That, swift as quicksilver, it courses through
The natural gates and alleys of the body;
And with a sudden vigour it doth posset
And curd, like eager droppings into milk,
The thin and wholesome blood."

To this it is replied, that "although it will rarely, if ever, be introduced into the mass of the blood, by any *ordinary* alcoholic potations in a sufficiently concentrated state to effect this, yet we should anticipate that its presence, even in a very dilute form, *must* affect the chemical relations of albumen, and can scarcely do otherwise than retard that peculiar transformation, by which it is converted into the more *vitalized* substance, fibrine." We find that the grounds for this anticipation are that "when an animal has been killed by the injection of alcohol into the blood-vessels, the blood often remains fluid after death, or coagulates but imperfectly. Now there cer-

tainly is a difference between the effects of an alcoholic liquor introduced into the stomach "in ordinary potations," and the same when injected directly into the blood-vessels; and it seems an inconclusive mode of reasoning to infer that, because the coagulable principle in the blood is impaired in animals dying from the latter cause, a similar result should take place in every instance where alcoholic liquors have been indulged in beyond prudential bounds. The blood, no doubt, is constantly varying in its relative composition throughout the day; still we should expect to find as good a coagulum after a dinner followed by a few glasses of wine, or even a greater amount, as there had been some hours previously. Allowing that in death from intoxication the alcohol passes into the circulation unchanged, and is there decomposed (though, if decomposed, how is it that it has been separated from the blood in its compound state?)—allowing this, a better explanation for the fluidity of the blood can be offered than the retardation of the process of fibrination by the chemical alteration effected on the albumen. This is the influence of carbonic acid when existing in great excess in the blood, and this excess may arise either from the lessened elimination of it by the lungs, as noticed by Dr. Prout to occur in alcoholic poisoning, or, according to Liebig, from the conversion of the oxygen in the arterial blood into carbonic acid, by its affinity for the carbon of the alcohol. Dr. Carpenter states further, that "as it is probable that nearly all the organized tissues are developed at the expense of the fibrine, anything which impaires its organizibility must have an injurious influence upon the general nutritive operations;" for a proof of which he refers to the case of habitual drunkards, in whom "the imperfect elaboration of the fibrine is one of the special characteristics." Without dwelling upon the opinion at present held by some, that fibrine, so far from being essential to the development of the tissues, is to be regarded as an excrementitious product, derived from the waste in the system and in progress of elimination from it, we may doubt the correctness of the above statement, as far as malt liquors are concerned, the sily blood of persons using them in excess having been frequently observed.

The experiments made upon animals give us more satisfactory results as to the effects of alcoholic liquors than the arguments deduced from their influence on dead tissues, but still it must be recollected that in these instances alcohol has been given in a concentrated form. Dr. Percy's experiments have afforded some interesting information upon this subject. He injected more than two ounces of alcohol into the stomach of a

dog, and death ensuing in less than two minutes, the spirit was found both in the blood and the brain. The same conclusion was arrived at by MM. Bouchardat and Sandras, who detected it in the veins of the stomach. The imbibition of alcohol by these veins, and its transference through the system by the blood, was also proved by the experiments of Magendie; and his celebrated investigations into the mode of operation of poisons show that, by cutting off the communication with the current of the circulation by tying the connecting vein, the effects of the poison could be postponed. Still a doubt exists whether the absorption of alcohol could be sufficiently rapid to account for the instantaneous effects. "Scarcely," says Dr. Percy, "was the injection completed, when the animal uttered a loud, plaintive cry, and fell lifeless to the ground. Never did I see every spark of vitality more effectually and more instantaneously extinguished." In this case we must suppose that the poison could not enter the veins, pass through the heart and lungs, and be deposited by the circulation upon the nervous centres, in the incredibly short interval which occurred; and pathologists seek another *modus operandi* in the special action of alcohol upon the organs of innervation. "In such instances," observes Dr. Carpenter, "the fatal result would seem rather due to the violent impression made upon the gastric nerves, especially those of the sympathetic system, whereby the heart's action is suspended, and death takes place by syncope rather than by asphyxia." It is not improbable that it may act in both ways, viz., when highly concentrated, upon the nerves, without the intervention of the blood, and this either upon the sympathetic system, or the sensorium, or both; and when in a less concentrated form, it is probable that it acts upon the brain by being first absorbed into the blood. But whether, in all cases, alcoholic liquors directly enter the blood or not, is not as yet determined; thus these agents are more rapidly taken into the circulation after a lengthened fast than after a full meal. Whether what Dr. Paris says of wine and fermented liquors be true, we are not able to say, viz., that they combine with the soluble albumen, and in this state undergo the digestive process. Certainly the form of combination of the spirit with the various constituents of these liquors exercises a great effect on their mode of action. For example, "brisk and sparkling wines, like champagne, intoxicate sooner than dry wines containing a larger proportion of alcohol, from the spirit being intimately combined with the carbonic acid, and rising with that gas;" but this intoxication is transient from the small amount of alcohol. It requires, on the other hand, a large amount of

beer to produce inebriety, from the nature of its ingredients, but the intoxication produced by it is of long duration, in consequence of its being more slowly carried out of the system.

The phenomena of alcoholic intoxication, and the *post mortem* appearances resulting from it, afford useful criteria of the effects of spirituous liquors. Dr. Carpenter divides these phenomena into three stages, all of which he asserts are states of poisoning! We have heard that the eccentric Dean Swift was in the habit of labelling certain bottles in his library in accordance with this opinion; for instance, porter would be marked "poison," wine, "rank poison," and brandy, "deadly poison"; but, notwithstanding this caution against their internal use, the humorous Dean found it quite inefficient, such is the waywardness of human nature, as a means of deterring his servants from draining their lethal contents. It would, no doubt, not a little alarm many a convivial circle, after the first bottle had completed its circuit, to hear from Dr. Carpenter the melancholy sentence that they were all poisoned; and it would certainly not quell the first feeling of shock which such disastrous intelligence would convey, to be told that the poison had begun its work, and that they were fast verging "to the incipient stage of insanity!" How it happens that the unconscious votary is not aware of his state, or how the world, censorious as it is, refrains from branding as a madman every one who does not totally abstain from this poison, is only a sad proof of the degeneracy of the age:

"Nimirum insanus paucis videatur, eo quod
Maxima pars hominum morbo jactatur eodem."

With respect to the state of the stomach during life, when acted on by alcoholic liquors, the well-known example of St. Martin is adduced, that famous "*Deus ex machina*," to whom lecturers on teetotalism are so much indebted. The appearance presented by his stomach after a debauch is narrated usually with the most minute detail, and in temperance lecture-rooms drawings are exhibited with the lining membrane of the stomach depicted in all the terrors of paint; "livid spots," and "aphthous patches," and "grumous blood," being scattered over it in a spirit of pictorial profusion. We are told there that "the free use of ardent spirit, wine, beer, or any intoxicating liquor, when continued for some days, has invariably produced these morbid changes." Now we confess that we very much agree with the sensible observations of Dr. Spencer Thomson upon this case, and we believe with him that if the appearances are described by Dr. Beaumont with fidelity they would

be apt to mislead, "as they are in truth more intense than those which are stated to have been presented after poisoning by alcohol in a concentrated form;" besides, the same appearances were seen after a voracious meal, especially if coarsely masticated. We cannot, therefore, allow that such morbid changes as were visible to Dr. Beaumont in St. Martin's case were of such danger as his vivid description would lead us to imagine, for after a few days' abstinence and rest, the stomach again resumed its healthy aspect.

As we are no friends to the abuse of alcoholic liquors, or to the sad power which intemperance, when habitual, possesses, of kindling disease, we shall, as our space is very limited, refer our readers to the long catalogue of maladies which the essayists trace to this origin, glancing merely at some of the statements; we do this with less hesitation as there are few special diseases in the nosology of intemperance, though there are many general diseases which it, with other causes, helps to originate.

One painfully interesting form of disease attributable to the abuse of alcoholic liquors, well known to the psychologist, but seldom described in works on medicine, is that species of insanity to which Hufeland gave the appropriate name of dipsomania, or thirst-madness, from the irresistible craving for stimulating drinks. Dr. Carpenter gives a long and valuable description of this disease from the pen of Dr. Hutcheson, who has, however, in our opinion, injudiciously changed its name to oinomania, or wine-madness. When once seen this disease will never be forgotten. The craving appetite for stimulating liquor is so intense, that there is no expedient to which recourse will not be had to quench the raging thirst. The unhappy victim knows that it is criminal to yield to the temptation, but unable to resist the gratification of his insane desires, he drinks again and again, each draught only increasing the relish for more. If denied the intoxicating cup, every sacrifice will be made to procure it; he cares little for falsehood or deceit, for the wants of his family, or the risk of his reputation; he is in fact no longer a responsible being; and for the errors he commits, and of which afterwards, "when in his right mind," he bitterly repents, he deserves pity more than blame. An interesting case of this kind is given by Dr. Chadwick, from Prichard's *Work on Insanity*. The only cure for this disease is abstinence and seclusion; and, from the continued tendency to relapse, Dr. Hutcheson has justly remarked, that such individuals are sane only when confined in an asylum.

In his anxiety to connect intemperance with insanity, as

cause and effect, Dr. Carpenter devotes a section to prove that drunkenness in a parent tends to produce idiocy or insanity in the offspring. This, as a rule, we consider very questionable. We believe it possible that the male parent, if an habitual drunkard, may procreate an offspring of feeble bodily power, or that the same result may ensue from the impaired nutritive energy of the female parent during gestation; but, except that a feeble mind may attend an impoverished body from arrest of development, we want indisputable evidence that idiots are generated by intemperate parents more frequently than by parents sound in body and mind. We believe the desire to prove that, to use the words of Horace, "*fortes creantur fortibus et bonis*," has led to the opinion that the opposite also holds true, but in real life we often find the first a poetic fiction. How drunkenness, an acquired habit, can be propagated by descent, is as difficult to explain as its non-occurrence in the offspring would be if the drunkard became a teetotaller. We opine that more depends on domestic example than hereditary taint. Still more improbable is the impression countenanced by Dr. Carpenter, that idiocy is particularly liable to occur when one or both parents are intoxicated at the time of the procreation of the offspring. How this can be known is not stated, and we should suspect it to be rather difficult of proof. If such a formula were to hold good we fear that mental debility would be much more frequent than it is.

Having thus passed in review some of the evils arising from the *abuse* of spirituous liquors, we have now to see whether we can reverse the picture and discover any good connected with their *use*.

This brings us to the second question.

Does physiology or experience teach us that alcoholic liquors should form part of the ordinary sustenance of man, particularly under circumstances of exposure to severe labour or to extremes of temperature?—Or, on the other hand, is there reason for believing that such use of them is not sanctioned by the principles of science or the results of practical observation?

This question appears to us sophistical. If it means, "Are alcoholic liquors so indispensable to human life that a healthy man cannot subsist without their daily use?" we must assuredly reply that, like most articles of aliment, they are not. But if the question implies that both physiology and experience show that such liquors should not in any case form part of the ordinary sustenance of man, leading, as he does, an artificial life, then the temperate user and the total abstainer join issue, both appealing for confirmation to the same sources. One of the

cases supposed to require the use of these liquors is when the individual is obliged to undergo severe bodily exertion. Now this may be two-fold, either when some extraordinary temporary effort of the animal powers is demanded, especially at a time when the system is almost exhausted by fatigue,—in this it is allowed by all that no other stimulus can take the place of these liquors; or, secondly, when an amount of labour is required from day to day of such an extreme character as to strain the bodily energies to the utmost. In this latter case it is maintained that total abstinence succeeds better than the use of alcoholic stimulants in any form. As Dr. Carpenter is the expounder, *par excellence*, of the arguments on the abstinence side, we shall give a short summary of the physiological positions maintained by him as contravening their use in supporting the system under “sustained” exertion.

Bodily labour, being performed by means of the muscular system, which is brought into operation by the nervous, cannot be long or successfully maintained without *both* these systems being supplied with nutritive matter to repair their loss and support increasing demands. The question, therefore, arises, can alcoholic liquors contribute to meet the demand? Dr. Carpenter looks to the ultimate composition of these liquors, and seeing no relation of composition between alcohol and muscular tissue, none of the albuminous materials which form the pabulum of the latter deriving their origin from the elements of alcohol, he concludes that in this system the alimentary influence of alcohol is nil. Now granting that this theory may be sustained, and that these liquors can supply no nitrogenous ingredient to the muscular tissue, though this is not wholly true of some of them, what does it prove beyond what common sense will admit, viz., that these liquors cannot take the place of ordinary food, no more than Dr. Carpenter’s favourite beverages? “We cannot,” proceeds Dr. Carpenter, “speak with the same confidence in regard to the impossibility of any assistance being afforded by alcohol to the nutrition of the nervous system,” as carbon is a predominant principle in this part of the body, and alcohol approaches the oils and fats in its chemical relations. He seeks, however, to extricate himself from the difficulty by asserting that as a better and less noxious mode of effecting the nutrition of the nervous system by fatty matters exists, nature would do wrong to use a defective, degrading, and poisonous compound in their stead. It would appear that Dr. Carpenter mistakes this assumption for proof, as he looks on it as decisive. But though it may have some show of probability as applying to the use of

alcohol in large quantities, it fails in its application to the milder forms used temperately. As well might we argue against the use of food containing phosphorus in union with other elements, and which is so important an element in nervous tissue, because, if present in the blood in an undiluted form, or in excess of quantity, it may exercise a deleterious effect as a poison.

We cannot clearly make out what are Dr. Carpenter's precise notions upon the relations of alcohol to nervous matter, for he states in another place that "it seeks out nervous matter and fastens itself upon it," while he denies in the present chapter that though analogous to it in its chemical components, it supplies material for its nutrition. Again, we are told that it stimulates particularly the nervous system, so that a greater amount of nervous energy is produced, and a greater amount of muscular power called forth, than could be generated without its aid. But he does not explain how this is effected more than generally that the increase of nervous power is accompanied by a corresponding disintegration of nervous matter, which requires rest and food to recruit its over-exerted energy. Of course if the stimulus employed be great, the period of depression and renovation must be the more prolonged; but if the stimulus is small, such as the moderate use of the milder alcoholic liquors, combined with the necessary aliment and rest, the artificial stimulation is less permanently injurious. We say less injurious, because all forcing work beyond the natural powers must end, whether stimulants be used or not, in premature decay; and as this unnatural and excessive labour must require *some* artificial support, it becomes a question for experience whether ginger beer and temperance cordials sustain the body under severe and prolonged muscular exertion better than the glass of malt liquor which the teetotalter would deny to the exhausted labourer.

In appealing to practical experience, allusion is made, among other examples, to the porters and boatmen of Constantinople, whose strength and physical development, it is said, very far surpass those of the corresponding classes in England, though the former are water drinkers and the latter drink ale. We believe, notwithstanding, that if it came to a trial of strength our countrymen, whether English or Irish, would meet them as vigorously as our grog-drinking seamen beat them at Navarino. We may observe, further, that the examples given in Dr. Carpenter's book do not carry conviction to our minds. Teetotalters are rather fond of pitting themselves on paper against the grog

drinkers, always, of course, to the disadvantage of the latter. It is to be recollected, however, that it is they themselves who furnish the statistics.

In the observations we have made we have no desire to undervalue the good effects of total abstinence to the miserable victims of intemperance. We agree fully in the declaration that with the drunkard no half measures will succeed; it must be "abstain, or die." But we also agree with Dr. Carpenter that "if the whole world would be really temperate in the use of fermented liquors there would be no use of total abstinence societies." But, as in all things in this life, good is dashed with evil, so we find it with temperance societies. These have, with some advantages, many faults, and the greatest of all is that religion, the only sure foundation of vital reform, is not the protecting influence. Hence, while these societies correct a vicious habit, they fail in elevating the moral feelings, and thus their effects are transient. They do not make the drunkard more domestic, as instead of his home, the club and the music room are his haunts. No sooner does a man become a total abstainer than he thinks it necessary to set himself up above his fellow-men, and condemn them because they do not, like himself, pledge themselves against that moderate use which he, not they, violated. The same spirit of intolerance too often pervades even the well-meaning but injudicious advocates of the cause. Because "they are virtuous, there are to be no more cakes and ale." Let them proceed, and we heartily wish them success in their philanthropic labours; but we cannot approve when they use sophistry instead of truth, and impute unworthy motives and call hard names to those who, instead of joining their ranks, continue to use the gifts of God without abusing them.

We have not time to dwell upon the influence of alcoholic liquors in exciting the mental operations, or to examine the opinion current among the ancients, "that no verses written by water drinkers could please." Poetry and eloquence have long been said to be under vinous influence:

"Fæcundi calices quem non fecere disertum."

Dr. Carpenter allows that these liquors excite the activity of the *creating* and *combining* powers, though he doubts their stimulating effects upon that combination of the intellectual powers which is known as *talent*. Among the men, "who extended most widely the domain of human knowledge by their intellectual labour," we find that the name of Dr. Johnson is placed as a water drinker. This, however, is a mistake, for

Boswell states that Johnson could practise abstinence, but not temperance.

There is but one subject more under this head to which we can allude, as we have not time to discuss the power of alcohol in enabling the body to resist the depressing influences of cold and heat. This we the less regret, as Dr. Carpenter observes that its power in the former of these cases, "is, perhaps, the best established of all its attributes." The subject to which we allude is the question, whether a person habitually temperate or a total abstainer can best escape epidemic diseases or other morbid influences? This is a point not yet sufficiently examined. Dr. Carpenter cites as an example that "the nurses of the cholera hospital in Manchester were worked six hours and allowed to go home the other six," and that the consequence was a large mortality, which he ascribes to the free use of alcoholic liquors. On confining them to the hospital, and putting them upon a short allowance of drink, not a single fresh case occurred. In our opinion, besides the regularity of habit thus induced, another cause may be assigned, viz., the confinement to the house, as we have frequently seen it to occur that persons coming from the fresh air within the range of cholera were more liable to take the disease than those who were continually breathing its atmosphere. In one of the largest cholera hospitals in the south of Ireland it was found expedient to allow the nurses and their assistants, amounting altogether, with laundresses and others, to over forty, a pint of porter each daily, and no instance, during two months' duration of the epidemic, occurred of any of them taking the disease.

Again, Dr. Carpenter has given statistics of the Cameronian regiment, when in India in 1837 and 1838, which would imply that its exemption from endemic and other diseases was in a direct ratio to its temperance compared with other regiments; but he has not stated that, subsequently to that period, when the same regiment was in China, it was unable to resist the malarious influence of the climate, and lost many hundreds of its men. When this regiment was in Cork, in 1849, it suffered severely from cholera; and it was ascertained, on inquiry, that the disease made no distinction between the abstemious and the intemperate. With respect to the tolerance of disease, our experience does not preponderate to the side of the teetotaller over the temperate man, though it does over the drunkard. Indeed the weight of evidence inclines to the opinion that total abstainers bear fevers badly, at least in this country, not enduring depletion, and requiring stimulants at an early period. In other countries, it has been stated that Irish emigrants who

were teetotallers were among the first to fall a sacrifice to malarious agencies.

The third question proposed for consideration is—

Are there any special modifications of the bodily or mental condition of man, short of actual disease, in which the occasional or habitual use of alcoholic liquors may be necessary or beneficial?

This question is answered by the essayists in the affirmative, and various conditions of mind and body are assigned, in which recourse can be had to alcoholic liquors with advantage. Among these we find cases where a demand for some extraordinary exertion is required, and must be met at any risk: these cases we have already alluded to. In circumstances also where the body is exposed to cold and damp, and great depression is experienced, the moderate use of fermented liquors fortifies the system, so as to enable it to resist those debilitating atmospheric changes, which might otherwise produce acute disease. A still more important case is, when a deficiency of ordinary sustenance exists; then a little portion of some alcoholic liquor supports the frame under labour and privation better than anything else. Examples, illustrating these “exceptional” cases, occur in the pages of the several essayists, and are well worth perusal. But the most interesting question for the physician is, what are the states of mind or body, short of actual disease, which occur in his practice, in which a moderate use of fermented liquors may be beneficial. One of these occurs every day in city life. If all mankind could live in pure air, use wholesome and simple food, and avoid the noise and warfare of crowded cities,—“*fumum et opes, strepitumque Romæ*,”—or if even they could, when needed, relax the jaded body, and rest the wearied mind, we should have little necessity for daily stimulants. But seeing that men form portions of civilized communities, exposed to countless wearing influences, the question is how to enable the frame to abide the shock. Dr. Carpenter sees the evil, but his remedy is Utopian. How could the daily labourer or humble artisan change the impure atmosphere in which he lives, for the renovating mountain breeze? How could the professional man in his struggle for position, or the merchant in his speculations for money, quit without loss the busy scene in quest of health? These are the cases in which the moderate stimulus of alcoholic liquors enables the citizen to bear up under the surrounding depressing agencies, and, by assisting his digestive powers, keeps him at least in average vigour and health. In persons of strumous constitution, such as we find in large manufacturing towns, the good effects of the moderate use of alcoholic liquors are acknow-

ledged. Children with the lax fibre and tumid glands of scrofula soon improve when fermented liquors form a part of their regimen; the gastric juice, which is deficient in these cases, is increased so as to help the stomach to digest the food, thus pouring better blood into the veins, and giving tone to the whole system.

Cases generally supposed to require the aid of these liquors are the states of pregnancy and lactation, in which, by one digestive apparatus, two beings are to be supported. In both these instances, we admit that stimulants, both of food and drink, are used in greater quantity than is required; but still, looking to the almost universal employment of alcoholic liquors in these cases, we protest that we have not seen the melancholy train of disasters to the mother and child which Dr. Carpenter theoretically conceives to follow from their use. Ladies living in cities *will* nurse their children, and if the remonstrances of the physician are unable to prevent this, is it not his duty to employ the best means in his power to correct the effects of too great a drain on the system? Dr. Carpenter with much naïveté, advises the physician, when the period of nursing is complete, to break a habit which might become vicious, by substituting a medicine for a beverage, "giving to the alcoholic compound such a form (he does not say what) as may render it not peculiarly palatable or inviting."

The only other condition considered to justify the use of fermented liquors, to which we can allude, is old age, that state of enfeebled energy, when

—"Minimus gelido jam in corpore sanguis
Febre calet solâ."

Even here, where the universal consent of mankind allows a little wine "for the stomach's sake, and the many infirmities," Dr. Carpenter gives it grudgingly. He forgets his own theory of its effects in maintaining the animal heat when feeble, and tells us his fear that it makes the old eat more than they ought! There is nothing, after all, like a hobby. "Allez donc," Dr. Carpenter, "allez donc toujours votre train." Perish rather the old, than that you should change your opinions, and afford a triumph to the opponents of the hydropathic and total abstinence cause!

There remains now but the fourth question to occupy us viz.

Is the employment of alcoholic liquors necessary in the practice of medicine? If so, in what diseases, or in what forms and stages of disease, is the use of them necessary or beneficial?

This most important section to the physician is unfortunately the one which receives the least consideration in the several Essays. Yet it causes much disagreement in the total abstinence ranks. Some of them hold that alcoholic liquors, being poisons, are injurious, or at least not necessary, in disease; and they take on themselves a solemn responsibility in administering a pledge to refrain from their medicinal use. Yet there is no point in medicine better attested than the value of these stimulants in preserving human life, so that they hold a place in therapeutics which no other agent can rival. It would be tedious to enumerate all the diseases in which their use may become necessary, in some indispensable; but in no malady is the indication for the use of these stimulants so vitally important as in certain Epidemics of fever. In this country we possess sad evidence of their indisputable value. In the fearful epidemic fever which accompanied the famine of 1846 and 1847, and swept over the length and breadth of this country with appalling extent and fatality, the universal conclusion arrived at by the hundreds of physicians who treated it, and who have recorded their opinions in the pages of our volumes for last year, was, that alcoholic stimulants were invaluable. Often a patient who had a short time before appeared out of danger, was found in a state of sudden collapse, pallid, cold, and pulseless, and nothing but the unceasing administration of alcoholic stimulants could bring back the fast-ebbing powers of life. The heart's action had begun to fail, and a short delay in the administration of these stimulants would have arrested it irrecoverably. Dr. Carpenter alludes to similar circumstances in the epidemic fever in Edinburgh, in 1836; and contrasts the different results in the practice of two of the physicians whose clinique he attended, inclining largely in favour of the stimulant plan. In explaining the effects of wine, he agrees with the deductions of Dr. Stokes that the failure of the heart's action indicated by diminished impulse and extinction or diminution of the first sound, is a valuable guide for the use of wine. In the late epidemic, the necessity for this remedy did not cease with the fever; it had to be kept up in smaller quantity during convalescence, owing to the exhausted state of the patient, and the tendency to relapse, or to fall into some cachectic disease. In these cases we cannot admit the explanation given by Dr. Carpenter of the mode of action of wine, viz., that it acts merely as a heat-producing agent, its alcohol supplying carbonaceous matter rapidly, so that it is burned off nearly as fast as it is introduced. This is, in our opinion, but a part of its effects; we see others equally impor-

tant in the nutrition or sustentation of the nervous system, as evinced in the calming effect produced on the sensorium, the cessation of delirium, the appeasing of the irregular muscular tremors, and the imparting new vigour to the failing action of the heart and respiratory muscles. It is equally valuable in rousing the system from the depression of the vital powers produced by severe personal injuries, as large burns, gun-shot wounds, capital operations, &c., in which the shock is so sudden and overwhelming, that, without aid, the system has no reactive power. Here the effects are too rapid to be explained merely by the combustion of carbon, and the fatty matters of the body have not been "used up," as may be true in fever. In diseases attended with a drain on the blood either directly, as in exhausting hemorrhages, especially uterine, or indirectly, by excessive secretion, its renovating and stimulating influence is equally valuable. In many chronic diseases, too numerous to mention, notwithstanding Dr. Carpenter's manifest leaning to the hydropathic treatment, there is incontestable evidence in its favour.

We have now reached the conclusion of our task, and we wish, once for all, to observe, that the strictures we have thought it our duty to make are not directed against total abstinence itself, which we hold to be necessary in habitual intemperance, but against the egregious pretensions of some of its advocates. We believe that they who possess sufficient self-control to be temperate have no need to be abstinent, and that the only rule imperative on man is

"The rule of not too much, by temperance taught
In what he eats or drinks, seeking from thence
Due nourishment, not gluttonous delight."

But as human nature is fallible and weak, and too many fall victims to the debasing vice of intemperance, we are ready to bestow our feeble meed of praise on those who strive to raise a fallen brother, and whose intentions we honour, while we may not coincide with their mode of carrying them into operation. We are ready to give them full credit for sincerity in their opinions, and we claim the like for our brother-recusants. The non-abstaining physician, in particular, is roundly charged with stifling his convictions from their not squaring with his interests, and threatened with the loss of his patients' confidence, if he continue to recommend, however conscientiously, the use of alcoholic liquors, in ignorance or defiance of the enlightened spirit of the age.

Of the three Essays before us, we have much pleasure in

stating, that they contain a large fund of valuable materials. They all, however, in our estimation, err in taking a partial view of this interesting question. Dr. Chadwick's treatise is short but practical; we do not, however, agree with him, that the true action of alcoholic liquors is unknown to a vast number of the profession. Dr. Spencer Thomson has handled his subject with ability and fairness, inclining evidently to the side of abstinence, though not condemning the temperate use of alcoholic liquors, even in the social circle. We could wish that the headings of his chapters were a little more intelligible. To many points of Dr. Carpenter's elaborate, but certainly one-sided Essay, we have already stated our objections. He has shown much learning and research in discussing his subject, as he always does; but the tone of his work conveys the impression that it was written more for victory to a favourite cause, than a dispassionate balancing of conflicting opinions. His Essay is an extension of an article on the same subject, which caused some sensation as appearing in the last Number of the *British and Foreign Medical Review*, and advocating heterodox opinions. We regret very much to find that he has again judged it prudent to represent hydropathy as possessing superior claims to medicine in the treatment of chronic disease. He is equally zealous in maintaining the merit of teetotalism over even the most moderate use of alcoholic liquors. We would recommend to him, when he next returns to this subject, the advice of Gil Blas: "Avouez de bonne grâce que vous avez reconnu votre erreur, et que le vin n'est pas une funeste liqueur, comme vous l'avez avancé dans vos ouvrages, pourvu qu'on n'en boive qu'avec modération."

Pathological Researches on Death from Suffocation and Syncope, and on Vital and Post Mortem Burning, suggested by the Case of the alleged Bridgenorth Matricide. By SAMUEL WRIGHT, M.D., LL.D., Professor in Queen's College, Birmingham, &c. London, Churchill. 1850. Small 4to, pp. 34.

THE observations and reflections contained in the present tract have been suggested by a remarkable case, involving important medico-legal questions, which formed the subject of several (it is said nine!) coroner's inquests, and of no less than three criminal trials. The case we allude to is that of Mercy Catherine Newton, reported in an abridged form in the *Medical Times* of August 18, 1849. With a view to the adjudication of cases of unusual complexity or importance, it has

been long the custom of those charged with the practical arrangement of criminal justice, to invoke the aid of the more experienced members of our profession. The special *quality* of experience, however, which such cases demand for their elucidation, is not unusually altogether misunderstood, as is shown by the identification of curative with medico-legal knowledge, so commonly observed on the part both of the public and of the administrators of the law. Thus, if the solution of a question of wounding, strangulation, or the simulatory effects of putrefaction, be demanded, the opinions of the surgeon and anatomist are viewed as indispensable, notwithstanding that inexperience in legal medicine may, and often does, render the testimony of such persons (highly to be esteemed in their respective spheres) worse than useless, by constituting them dangerous alike to the interests of justice and the safety of the accused. In the investigation, however, of the case of Newton, above alluded to, the authorities have evinced a sound discretion in selecting, for the collation and interpretation(a) of the medical facts, a physician distinguished at once as a physiologist, practitioner, and medical jurist, and whose present communication contains matter both novel and important.

We cannot give more than a brief analysis of the author's results, which are stated in connexion with the leading subjects of inquiry at the trial,—a passing allusion to which is here necessary. The body of the subject of the supposed violence was discovered lying in an out-house, a few yards from the kitchen door, and was supposed to have been dead two or three hours. Externally there were extensive burns (chiefly on the anterior surface of the body), not indicative of vital reaction, and accompanied by a solitary vesication *believed* to have contained serum. The brain was congested, the lungs excessively so, dark and spumous wherever incised, and the right cavities of the heart replete with dark, semi-coagulated blood. The deceased was reported to have been in her usual good health three or four hours previously to the discovery of the body. The questions involved were:—First, what was the cause of death? Second, were the burns vital or cadaveric? The view sought to be established by counsel was, that death had resulted from burning, or from the inhalation of the gas-products of combustion. Dr. Wright, on the contrary, was of opinion, that it had been the consequence of suffocation (smothering?), and that the burning had occurred after death. Dr.

(a) “*Medici non sunt propriè testes, sed est magis judicium quam testimonium.*”

Wright seeks to sustain his views by contrasting the morbid appearances in death by suffocation (asphyxia proper), with those induced by the narcotic gases eliminated by combustion, assigning solely, as the operative ingredients of the latter, carburetted hydrogen and carbonic acid,—an assumption to which we are not prepared unreservedly to accede, as doubtless carbonic oxide, and possibly various empyreumatic products, exercise a concurrent influence. In reference to the condition of the lungs and heart, had it been the vital question to be solved, whether the congestion was the result of asphyxia (as from a successful attempt to smother), or the effect of the inhalation of the gases of combustion, we conceive (without impugning the correctness of Dr. Wright's judgment in the case before us), that the criterion of *comparative* vascular plenitude of the above organs, on which he seeks to establish the diagnosis, is of too delicate and inconstant a character to be safely admissible in the investigation of cases fraught with such important consequences as the present. In estimating degrees of a given state of parts, it is indispensable to the formation of a sound conclusion, that the observations should be made by a practised eye, guided by an instructed mind, prone to weigh the influence of modifying circumstances; and we can contemplate that, even under such favourable conditions, the formation of a definite opinion on the above grounds, would be far from an invariable possibility. Hence, diagnostic judgments, drawn merely from the intensity of a specific condition, should, in our opinion, be received with the utmost reserve, especially when (as occurred in the present instance) constructed not on personal inspection, but on the report of others. But, in truth, the assumption that, even in undoubted death by burning, resulting from the ignition of the clothes, or from a transitory and partial exposure to fire, the proximate cause of the mischief is to be sought in the inhalation of the gas-products of combustion, is not only unsupported by facts, but vicious; being one of the thousand modern quasi-physiological explanations, analogous to the notion which refers death in drowning to the accumulation of some extra amount of carbonic acid in the lungs,—one which, like the latter, wilfully forsakes the palpable, for the speculative and fantastic. Dr. Wright's testimony, however, appears to oppose the idea of death from the inhalation of combustion-gases, chiefly on the ground of the less degree of pulmonary and right-heart engorgement in the latter, than in asphyxia proper. We should have been disposed, waiving such considerations, to treat the objection as speculative and unsustained, and sufficiently refuted in the case at issue, by reference

to the maximum interval between the last observation of the deceased, and the discovery of the body.

The inhalation of the gases of combustion being thus disposed of, as a cause of death, the inquiry next suggests itself, whether the latter might not be found in the burned condition of the body; thus involving, in the second place, the question of the vital or post mortem origin of the burns observed. It has been already noted that none of the latter presented evidence of surrounding vital reaction, but that a vesication, supposed to have contained serum, occupied the right leg. Does, then, the absence of the signs of reaction indicate with certainty that burning has taken place after death? Dr. Wright states it as the uniform result of his experience (which has been considerable in such cases), that *either* surrounding or *subjacent* redness, constantly accompanies vital burning in subjects healthy at the time of its occurrence. The author's statement with regard to *subjacent* redness in burns and vesications is worthy of much attention, as, undoubtedly, surrounding reaction is by no means a constant phenomenon. In our own inspections we have certainly seen injection of the areolar membrane in patches under the burned part, and also, where the skin was but superficially burned, its section exhibited red coloration towards its attached surface. The varying intensity and duration of the heat applied is also capable of giving rise to conditions which do not appear to have been described by authors. Thus, in the instance of a suicide found dead on a burning lime-kiln near this city, and who presented a deep incised wound in the neck, and unequivocal signs of vital burning on the body, the integument of the fore-arm exhibited a very dark red tinge or staining throughout its entire thickness, the cuticle had lost its adhesion, and the surface of the true skin was thinly coated with a *bloody* serum. Similar conditions in greater intensity were observed in the skin of the great toe, the nail and cuticle of which were detached, and the surface of the cutis vera presented both vascular injection and intense red staining, and was fully coated with a thick, uniform, bloody fluid, not unlike that which is seen in the stomach in many cases of irritant poisoning. On the more deeply burned parts there were also well-marked gaseous vesications. In burns on parts of the body dependent after death, the *livor* surrounding them might be confounded by the inexperienced observer with marks of vital reddening.

The experimental results of Dr. Wright on vesication are peculiarly important, as tending to subvert the usually enter-

tained view that, except in œdematous subjects, vesications containing *serum* are undoubtedly vital. Our author has found it possible, by the use of a spirit-lamp, to produce a *serous* blister on bodies (where organic life still lingered in the tissues), half an hour, and in one remarkable instance, *three hours and a half* after death. Operating on amputated limbs (which are unfavourable subjects, from the necessary loss of blood) similar vesications were effected, in from half a minute to four and a half minutes after amputation. In the instance of vesication three and a half hours after death, the body being warm and the joints flexible, the parts operated on were slightly anasarcaous. That this condition was not the sole cause of the result, seems probable from the fact, that similar treatment did not produce blistering after the body had become cold and stiff. We cannot, however, concur with Dr. Wright in viewing the vesications "as in no wise dependent on the anasarca," inasmuch as the author's plates show a material difference in the size and appearance of the serous vesicle produced in the anasarcaous(a), as contrasted with those observed in his other cadaveric experiments. The character of the latter is thus described:—"The detached skin (cuticle?) is loose, wrinkled, and soddened, being saturated with serum, and having very much the appearance of a woman's hand after continued work at the washing tub. This skin has a soft pulpy feel between the fingers, which it moistens on pressure. The subjacent tissue is *quite pale* and glistening with serum, which is sometimes in quantity only *sufficient for lubrication*, and again will amount to *one or two drops in the space of a square inch*." Dr. Wright has done good service in drawing attention to the diagnostic value of injection of the surface of the true skin, in vital vesications, to which we will add that we have once found the serum *tinged with blood*, and coagulated, though not having in anywise lost its transparency.

Vesications containing air are usually assigned by authors as non-vital; this, however, we submit, should be received with restriction, as such a condition obviously indicates only loss of vitality in the *texture* involved, while *systemic death* may not have as yet arrived; in other words, the part burned may be dead, carbonized even to air-blistering, while the individual still lives. It becomes, therefore, the more imperatively necessary to seek indications of *subjacent* redness in those cases of extensive burning in which red areolæ and well-marked serous

(a) The vesications, in this instance, contained fully *two and three drachms* respectively, and are delineated as bullæ of nearly an inch in diameter.

vesication are absent. But to revert to the judicial inquiry connected with Dr. Wright's observations, it does not appear unequivocally from the record in the case of Newton, that the medical inspectors failed to discover redness subjacent to the burns, or that such inquiry was entertained at all. In the absence, therefore, of information on that point, we must rely for evidence that burning had no share in the causation of death, on the nature of the internal appearances, which in rapidly fatal cases are, according to our author, rather those of partial vascular injection with arterial blood(a), than of extensive venous congestion with loaded pulmonary heart. Dr. Wright meets Dupuytren's assertion of the occurrence of congestion in the great splanchnic cavities in immediately fatal cases of burning, by assigning to its instantaneous production a place amongst physiological impossibilities; and argues that such deaths must be of the nature of syncope, a condition in which the heart is not uncommonly found empty, although, if we are to rely on the evidence of Devergie, by no means so in all instances. Indeed the latter author states it as the result of his experience, that the right and left cavities are equally filled with blood, and throws out the suggestion that the separation of a fibrinous clot in the right ventricle may possibly prove distinctive of this mode of death. In estimating death by syncope the condition of the heart (thus presenting marked variation) must be taken in conjunction with that of the lungs, which latter is not one of congestion. A due comparison of all the facts will probably incline the instructed reader to agree with Dr. Wright, in viewing the burning in Newton's case as of *post mortem* origin. The difficulties of the inquiry were, however, increased by the assumption of counsel (who seem to have been unusually versed in legal medicine), that the deceased might have been asphyxiated by flame, either from its influence in obstructing the access of circumambient air, or through the intervention of spasm of the glottis. These difficulties were opposed by the allegation, that in an individual in possession of consciousness and voluntary motion, death could not result from the asphyxiating influence of flame, unless he were surrounded by it, and that spasm of the glottis would *probably* give rise to farther changes in the air-passages and lung-structure than those observed. While the latter distinction appears, to say the least of it, unsatisfactory, it seems to us that the objection admits

(a) Magendie has very lately observed that in animals rapidly killed by exposure to a high temperature in stoves, the blood in the arteries and veins was black, various internal organs (including the lungs) were infiltrated with blood, and ecchymoses were present on the skin and mucous membranes.

of a sufficiently easy refutation in the absence of any evidence of more than a momentary persistence of the spasm, granting the possibility of its production by the means assigned. The short interval previously to the discovery of the body in the present case, rendered it unnecessary to entertain the question whether the inhalation of flame might not act as a cause of secondary asphyxia through the agency of œdema of the glottis.

If the soundness of Dr. Wright's views as to the appearances in the thoracic viscera in rapid death by burning, and the uniformity of the alterations in that quarter, be conceded, and the absence of vascular injection in the vicinity of the burns be considered as sufficiently sustained by the inspection of the Bridgenorth physicians, there can be no difficulty in admitting that the medical facts were more in accordance with the hypothesis of death from asphyxia independently of burning, than with any other view of the case. Dr. Wright, already so favourably known by his previous researches, has by his present publication furnished a most profitable mental exercise for the practitioner,—one of great value to all who contemplate the possibility of being called on to assist justice by the light of accurate and well-digested medical science, in which category, every member of our profession, doubtless, expects, and should aspire to be deservedly placed.

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1. *Des Falsifications des Substances Alimentaires et des Moyens Chimiques de les reconnaître.* Par JULES GARNIER, &c., &c., et CH. HAREL, &c. Paris, Baillière, 1844. 12mo. pp. 528.
 2. *Dictionnaire des Alterations et Falsifications des Substances Alimentaires, Medicamenteuses, et Commerciales, avec l'Indication des Moyens de les reconnaître.* Par M. A. CHEVALLIER. Paris, BECHET, Jeune, 1850, vol. i. 8vo. pp. 479.
 3. *A Treatise on the Falsifications of Food, and the Chemical Means employed to detect them.* By JOHN MITCHELL. London. Baillière, 1848, pp. 334.

WE do not know if the ancient Greeks and Romans carried the science of cheating their neighbours, by adulterating the articles which they sold, to the same degree as we moderns do; for, fortunately for their reputation, and, we would also add, for the peace of mind of old ladies and cosmopolite philanthropists, who, doubtless, were as numerous in those ages as in our own day, there were no analytic chemists to drag their dark deeds

into light. If we may be allowed to judge from such examples as the rapidly spreading civilization of modern times has still left, of what may be denominated primitive civilization, we fear the honesty of the ancient world was no better than it should be. Indeed the instances which we have from time to time read or heard of concerning the capacity of that stereotyped people, the Chinese, for the art of giving strange names to objects well known, exceed anything of a similar kind recorded by the prying industry of a Chevallier. What, for instance, would he, who, as a true Parisian, must be a judge of a good boot, think of a Chinese who sold a countryman of his a pair of elegantly finished boots made of paper ! That he was unacquainted with such ingenious discoveries we are led to infer from the fact that in this, the first volume of his dictionary, he does not give this species of adulteration, though probably he may do so under the article *shoes*. But, whatever progress our classic friends may have made in this great branch of science, there can be no doubt that in modern times it has shared the same degree of attention, and, doubtless, has gone on with the same rapid strides, as any of the other applied sciences. It is, however, difficult to trace its historical development with the same accuracy as we may do in the case of other branches of human knowledge, owing to the great modesty of some nations, who feel certain conscientious scruples about appropriating other people's discoveries. In justice to the French we must say that they boldly assert their rights on this point as well as on other questions ; and, if we are to consider Chevallier an unprejudiced chronicler, we must also say that they may be proud of their discoveries, as well from their number as from their ingenuity. In the performance of a task like our's, we should not be deterred from doing ourselves justice from any over-delicate sense of modesty ; and we therefore say that the British Nation should not allow itself to be plundered of its well-deserved laurels in this field, no more than it did of its conquest of the planet Neptune. Is not the discovery of making three pounds of pepper from two, or that of an inexhaustible bottle of quina, to soothe the poor patient in fever, of equal utility and far more philanthropic than that of planting the British flag on a distant and probably barren planet, which it is probable we cannot colonize. A truce, then, to such mock modesty ! We assert boldly, without fear of contradiction, that our neighbours on the opposite side of the Channel have done more towards the progress of this important branch of human knowledge, than all the rest of Europe put together. We would willingly do equal justice to our own countrymen, but—alas !—we are gleaners

merely ; our ingenuity is cramped, at least in practice (although in theoretical knowledge we believe we hold a respectable position), by our having no materials to practise on. We shall, therefore, pass over in silence, as too contemptible to be noticed, the slight *additions* which we occasionally make to the labours of others.

To be a little serious, however : it is impossible to read such books as those, the names of which stand at the head of this article, without being convinced of the sad fact, that the trade of this enlightened century is eminently dishonest. There is scarcely a substance we take up that is not more or less sophisticated,—the articles of food as well as those which minister solely to luxury and which have at all times formed the stock in trade of the mountebank : whether we take the productions of distant climates, or the corn grown on our soil, we are sure to discover some fraud. Strange inconsistency !—that a country which blazons forth to the world its morality and its observance of religion, where the petty thief who steals your pocket-handkerchief, or the unfortunate man who fills his empty stomach with a few of his neighbour's turnips, is immured for years in a prison, and branded for life as a felon, should look so lightly on the wholesale robbery of the fraudulent trader ; where the same individual who sells to the starving artisan a quantity of gypsum instead of wheaten flour, or of chicory instead of coffee, is frequently found heading a requisition to call a meeting for the abolition of the punishment of death, or subscribing largely to purchase chemises for the little Niggers of Carolina, or talking flippantly of the dishonesty of the lower classes : and such inconsistency is not rare, although we are far from admitting that the human race is so completely devoid of honesty as a perusal of the various books which have been published on the subject of adulterations must inevitably lead us to believe.

We may divide adulterations into three classes:—First, the adulterations of such articles as are not employed for food or medicine ; second, of food ; and third, of medicines. The first class is evidently the least injurious to society, it is in fact a simple theft ; but the results of the other two classes are the loss of that which cannot be measured by any money standard,—of health, and very frequently of life itself. It is beyond our province to dwell upon frauds of the first class, although we can assure those of our readers who have not paid attention to the matter, or who have not purchased experience, that they would afford ample materials for a philosopher to show the effect of money in sharpening the intellect of the most dull, and of proving the magic power

of man in transmuting matter; we shall, therefore, confine ourselves to the consideration of the second and third classes of adulterations, or rather to the consequences resulting from them, as it would require a volume to merely enumerate all.

An adulteration of an article may arise either from a direct intention of committing fraud, or simply from ignorance of the effect of a substance or of the proper method of preparing the article in the first instance. The latter cases are very common. Among the many instances which we have had an opportunity of seeing, we may mention that of a person who employed a basic acetate of lead to remove acidity from a quantity of wine which he had for his own use, and doubtless would have done the same if he had had it for sale. He was of course utterly ignorant of the poisonous nature of the salts of lead, or of the action of these compounds upon the wine, or he would not have employed them. The mistake arose from the process having been recommended in some old book of useful receipts; books which, we may remark, are frequently written by men utterly unacquainted with the commonest laws of science, and which are consequently fruitful sources of such adulterations. We need not go further than Mr. Mitchell's book, for an example in proof of this. At page 91, after giving a catalogue of the ingredients which go to make up that very curious compound denominated "porter," amongst which he enumerates *coccus Indicus*, salt of tartar, alum, copperas, &c., he quotes the following curious *morceau* from the treatise of a brewer of the name of Child, and author of the catalogue just referred to, which for its *naïveté* cannot be surpassed:

“ ‘ And now, having finished the task he had imposed upon himself, and having seen his work run rapidly through several editions, in answer to the many inquiries which have been made, to the questions which have been put, and the letters which have been sent to him, he solemnly declares that he published this work solely for the public good; that he was neither influenced by envy at those who made fortunes by the secrets here exposed, nor by any private wish of particular gain to himself, but by a desire to soften the hardships of the industrious poor; and in this point of view he trusts the candid and impartial will consider his book as one step attempted to ameliorate the condition of the labouring part of mankind.’ ”

We never dreamed that there existed such a latitude for difference of opinion as to the means of ameliorating the condition of the poorer classes, as the above passage proves does

exist, for while all the physicians and chemists in the world agree upon the poisonous nature of *coccus Indicus*, &c., we have the authority of Mr. Child for looking upon their use as actually a benefit to the consumers. Where, we ask, were the guardians of the public weal, when this book was published? or are politics, literature, and religion the only matters upon which men must not differ, whilst the public health, and with it the moral condition of the people, is allowed to be the toy of ignorant quacks?

By the side of this class of sophisticators, we may place the vendors of adulterated articles, whether of food or of medicine. When the adulteration of such articles has become so common, that very frequently it is impossible to obtain certain substances pure, we need not be surprised that persons of undoubted honesty will be sometimes found selling the most dangerous mixtures. In many cases these people are not to be blamed, or rather we should be thus generous only to the uneducated shopkeeper, but we can scarcely be expected to act similarly with the seller, when he is a man of education.

The system of fraud carried on by these manufacturers is perfectly incredible: they not only adulterate the articles which they sell, but the substances which they employ in their adulteration are themselves previously subjected to the same ordeal by others. We have known instances where sulphate and carbonate of barytes, or Dutch lead, had been mixed with oxide of zinc and carbonate of lead; and although the Dutch lead employed is exceedingly cheap, it had already been largely adulterated with a substance still cheaper, plaster of Paris. The great system of trade, which we in our simplicity supposed to be the result of the sterling honesty, enterprise, and capital of England, is, we fear, so far as regards the manufacture of drugs, a chimera; for we do not believe that it is possible to select a single substance from the list of the largest drug houses, that is not either intentionally or accidentally sophisticated. At one time we believed that we could tell the quantity of water in the common crystallized soda of commerce, but we confess that at the present moment it is so very nearly all water, that in using it we always consider it as a very dilute solution of carbonate of soda. As the trade appears to be a lucrative one, we would wish to afford our countrymen an opportunity of getting a little insight into its secrets; a few extracts from our private note-book will probably serve for the present as an introduction to the subject.

1. *Nitrate of silver*: composed of nitrate of silver, four parts, and nitrate of potash, one part. 2. *Balsam of Copaiba*: balsam

of copaiba (supposed pure) *ad libitum*; castor oil, do. 3. *Capsules (de Mothe's) of Balsam of Copaiba*: spermaceti, or train oil, as best suits. 4. *White precipitate*: precipitated carbonate of lime, and white precipitate, of each equal parts. 5. *Hydriodate of potash*: bromide of potassium, or hydriodate of potash, six parts; common salt, one part; carbonate of potash, a half part. 6. *Sulphate of Magnesia*: sulphate of soda in small crystals. 7. *Tartar Emetic*: sulphate of potash, and tartar emetic (supposed pure), of each equal parts. 8. *Calomel*: 1st, for the Western States of America: carbonate of lime (precipitated), nine parts; pure calomel, three parts. 2nd, for the Eastern States: pure calomel, one part; carbonate of lime, three parts. 9. *Kermes mineral*: red ochre, potato starch, lamp-black, Prussian blue, according to the taste and judgment of the maker; pure kermes, NONE; to obtain a fine violet-coloured kermes. 10. *Lactate of Iron*: sugar of milk, sulphate of iron, of each a sufficiency; lactic acid, none. 11. *Opium*: wash good, pure opium several times with cold water, to extract the morphia; make up again into mass, taking care to add capsules of the rumex, extract of indigenous poppy, a little clay, and the debris of a few palm leaves from a botanic garden, so as to obtain true oriental opium. 12. *Turkey Rhubarb*: take of the residuum of genuine Turkey rhubarb, after exhaustion with alcohol in the preparation of the tincture, six parts; fresh rhubarb, one part; the whole to be brought to the proper tint with a little turmeric. 13. *Confection of Cassia*: pulp of dried pears, treacle, confection of cassia, with occasionally a little lampblack, according to the taste and skill of the maker. 14. *Extract of Sarsaparilla*: extract of sarsaparilla, two parts; extract of saponaria, one part. 15. *Extract of Belladonna*: extract of solanum nigrum, *ad libitum*. 16. *Codein*: German morphia in small crystals, with a little sulphate of lime in crystals. 17. *Quina*: sulphate of lime in needles, or carbonate of magnesia, from one-quarter to one-half the morphia; or, salicine. The salts of morphia have in general the same composition.

These few notes will serve to indicate the proper methods to be adopted by all who aspire to success in this excellent art. It would be quite foreign to our object to enter more fully into the subject; but, as we shall show by and by, the books at the head of this article will supply all the additional information required.

We assure our readers that these recipes are genuine, and the proportions those of the more honest sophisticators. It cannot be a matter of wonder, therefore, that there should be a great difference of opinion among medical men as to the ac-

tion of various medicines; the wonder is rather how any definite results whatever are obtained. Let us for a moment imagine that a number of chemists used reagents adulterated to the same extent that many important medicines are in making their analyses, and we should like to know what would be the condition of science in a short time; and yet the case of physicians is perfectly analogous, with the exception that the consequence would not be so apparent. Suppose a physician orders for a patient at a critical moment a certain quantity of sulphate of quina, or any other specific of equal value. The prescription is taken to the shop of an apothecary, whose quina obtained in the usual way, consists of equal parts of the sulphates of lime and quina, where it is made up, and the unfortunate patient thus gets but one-half of the prescribed quantity. Or, if we suppose a person in the habit of taking a certain quantity of morphia, obtained from a vendor of a sophisticated article, without any injurious effects, should suddenly purchase the same article in a state of purity, the most fatal results might ensue. In all such cases, the injury inflicted is not confined to the patient alone; the physician is also deeply injured in his reputation; and he is very probably induced to give up a mode of treatment which, if pure medicines were employed, might be attended with the most satisfactory results. If such cases occur in large cities, and with patients able to purchase medicines, what must it be in country dispensaries, work-houses, &c., where the medicines are obtained by contract from the lowest bidder; and where some overwise guardian, in order to effect an economy to the union of a few pounds per annum, is ready to pounce upon the unfortunate doctor if he indulges in an expensive medicine to save the lives of his fellow-creatures. Cases of this kind are not at all uncommon, but unfortunately all matters of public hygiene are deemed of so little public importance, that except the coroner figures in the matter, they are never heard of. But bad as the case of the ordinary physician undoubtedly is, there is another class of men which labours under still greater disadvantages, the veterinary surgeons. It is, in fact, sufficient to say, that anything is considered good enough for them; cattle medicines being looked upon in every country as legitimate subjects for the exercise of the ingenuity of the adulterator.

The wanton and open disregard of public honesty with which this disgraceful commerce in adulterated articles is carried on is well illustrated by a species of trade which exists, we believe, rather flourishingly in this city. Whenever an auction of drugs is advertised to take place, a number of dealers in

Liverpool send over a quantity of goods of the vilest description, which they contrive to get introduced into the stock about to be sold, and thus pass them on the Irish public, sometimes by the agency of purchasers utterly ignorant of the quality of the article, but more frequently by men as unscrupulous as the original fabricators. One instance of this kind, remarkable for the coolest roguery, will serve as an example. During the failure of the potato crop, a large quantity of bicarbonate of soda was employed by the poorer classes in the preparation of bread; the article consequently became scarce, owing to the increased demand, and the price rose accordingly. Such a favourable circumstance was not lost upon fraudulent dealers, and immediately a large quantity of a spurious article was introduced, which, in one instance at least, consisted of a mixture of powdered washing soda and slaked lime!! We may remark that a great many other substances besides drugs are introduced in a similar way into this city, to the evident ruin of the honest trader, who cannot of course compete with such men. We are really astonished that attention is not publicly called to this system of fraud, which we are confident must be of serious injury to the best interests of the trade of any city.

The question naturally suggests itself to everybody, on hearing of such frauds, does not the law afford any protection against robberies of this kind? The answer to which, unfortunately, is, that it does not. If a grocer puts well-washed sand in his sugar, or chicory in his coffee, or flour, or starch, or yolk of eggs, or roasted almonds, or the envelope of the nut dried and reduced to powder, in his chocolate, or sloe leaves in his tea,—or if the tobacconist puts brown paper and treacle in his cigars, and sumach or fustic in his snuff,—the officers of the revenue seize upon the adulterated article, and fine the defrauder heavily, not, however, because he robs the public or occasionally poisons them, but because he defrauds the Government of a certain amount of duty, and even the punishment inflicted in such cases is merely a loss of money, when it ought to be considered and punished as a theft. But the man who puts sulphate of copper, alum, carbonate of ammonia, &c., in bad flour, to enable him to produce an apparently good bread, or carbonate of potash to increase the quantity of water which it can contain, or burned bones, pipe-clay, &c., to increase its weight, and thus gradually injures the health of numbers, and robs the starving artisan, is allowed to corrode society unmolested, and to perform all the highest functions of citizenship, in the exercise of which he may, probably, condemn to the doom of a felon many men far less guilty than

himself. In other countries, as in France, the laws against sophisticators are exceedingly severe, and are fully carried out, as is shown by the number of convictions which annually take place at Paris. Indeed so great is the number, that persons ignorant of the fact that adulteration is carried on to a much greater extent at home, imagine that the French adulterate everything. In the one case the thief escapes with impunity, and, of course, is not heard of; and in the other he is condemned to imprisonment, to the loss of civil rights, sometimes to lose the right of again practising his business, and to have his name and offence placarded by the police on all the public places. In Prussia, as we learn from the following passage quoted in the preface to Mr. Mitchell's book, the law is equally stringent:

“No person shall knowingly sell, or communicate to others for their use, articles of food or drink which possess properties prejudicial to health, under a penalty of fine or bodily punishment. Whosoever adulterates any such victuals in any manner prejudicial to health, or mixes them with unwholesome materials, especially by adding any preparation of lead to liquors, shall, according to the circumstances of the case, and the degree of danger to health, be liable to imprisonment in a correction house, or in a fortress, during a period varying from one to three years. Besides this punishment, those who are found guilty of knowingly selling victuals which are damaged or spoiled, or mixed with deleterious additions, shall be rendered incapable for ever of carrying on the same branch of business. The articles in question shall be destroyed if incorrigibly bad; but if otherwise, they are to be improved as far as possible, at the cost of the culprit, and then confiscated for the benefit of the poor. Further, whoever mixes victuals or other goods with foreign materials for the purpose of increasing their weight or bulk, or their seeming good qualities, in a deceitful manner, shall be punished as a swindler.”

Stringent as these laws are, they are not found adequate to the evil, and for some time a number of persons in France have made many efforts, but hitherto in vain, to endeavour, by a well-digested series of laws, to meet the difficulty. Sooner or later this will be done, but with our philosophical creed of *laissez faire, et laissez passer*, it would be considered very unjust to interfere with the legitimate course of trade, even though that course was destructive to the true interests of society. This maxim is well illustrated by a remark of the Chancellor of the Exchequer, in the House of Commons, on the 23rd of last May: “That the public should learn to take care of itself, *caveat emptor* being the principle upon which

governments must act"(a); and, at the same time, shows how little reason we have to expect that the Government will take the initiative in this matter. Although there is, no doubt, a good deal of truth in the Chancellor's remark, we cannot see how each individual is to learn chemistry, botany, &c., and turn peripatetic lecturer on toxicology for the amusement of grocer's wives and assistants, and the terror of the husbands. We would like to see the Chancellor himself in that temple of mystic rites vulgarly called an apothecary's shop, taking care of himself in the matter of a prescription to be made up by the magi inside the counter; we rather fancy that the mysteries of the budget would be a trifle compared to the transmutation to which he would be witness.

But if the Government will not undertake to purify trade, what is to prevent the public from looking into the matter themselves? Attempts have been made, and not unsuccessfully, to form, in several large towns, as, for instance, in Dublin, a sort of voluntary "board of health." These have been already productive of a great deal of good, by calling the attention of the public to the important and hitherto much neglected science, "public hygiene." Now these bodies ought to take up the subject of the adulteration of food and of other articles which are used for domestic purposes, such as soap, which is subjected by the Liverpool merchants, at present, to the most ingenious system of sophistication; and if the law afforded no means of punishing the authors of frauds, public opinion might punish them by stripping them of the cloak of honesty which such persons generally contrive to envelope themselves in. If this were done we would soon adopt the continental system of having analyses of all commercial articles made before sale, a system which is already applied to saltpetre in London, but the want of which in the case of other articles is at present severely felt by the commercial world. The government of the United States has very properly taken up the matter, not, however, before it was much wanted, and requires, at present, that every chemical product, drug, &c., shall be analysed when imported. A provision might certainly be introduced, with great facility, into the new Medical Bill, for the appointment of a number of officers for inspecting and examining, when necessary, the food and medicines sup-

(a) An observation to be equalled only by that of another celebrated statesman of England, now in Opposition, who, a few years since, on being pressed to introduce some law for the safeguard of the public against quackery, quoted in reply the old adage, "The pleasure of being cheated is as great as 'tis to cheat."

plied to the union workhouses, and to whom similar questions arising in the several districts, and, in fact, all matters connected with the public health might be referred. We believe that the formation of such a staff of officers would be second only in importance to that of the establishment of schools. Unfortunately all our efforts are generally directed to the intellectual and moral, and none to the physical, entirely forgetting that the latter should first claim our attention, for, without due attention to it, progress in the former is impossible.

The Directors of the Apothecaries' Hall of Ireland have already taken a step in advance, by instituting an annual prize for analytic chemistry. For this they deserve much credit, as the only thing necessary to stop the adulterations of medicines is to thoroughly educate the apothecary in chemistry and botany, and the especial application of these sciences to the detection of the sophistication of drugs.

Although we have not hitherto done more than mention the names of the books which we have undertaken to review, we have, nevertheless, given a summary of their objects in the preceding remarks, and it only remains for us to say a few words on the peculiar merits of each, and on the general value of all such works.

The book of Garnier and Ch. Harel is confined to an account of the adulterations of food, and is written in an excellent spirit of philanthropy, which cannot be too highly commended. It is also to a considerable extent free from the exaggerations and improbabilities, which too often distinguish other works on this subject. The book of Mr. Mitchell is Garnier and Harel, suited for Great Britain, enriched by a great number of additional observations, such as his chapter "on the vessels in general use for the preparation and preservation of articles of food," which contains a great number of valuable remarks. It is a good popular book, and as such we can recommend it to the perusal of all who take an interest in public hygiene. The work of Chevallier will probably form three volumes, and as it includes nearly every substance usually adulterated, it will, when completed, be the most important on the subject hitherto published. Its arrangement also as a dictionary renders it more useful. It is distinguished by a minuteness of detail and a thorough research, which, despite of the faults of style and want of elegance in his descriptions of processes, must still render it the text-book of all who wish to discover the adulterations of others, or to adulterate for themselves. His general arrangement is very good. He commences by describing the substance, its properties and composition, then

its uses, the alterations it is liable to undergo from accidental circumstances, and which should not be confounded with malicious sophistication, and, finally, gives a very full account of all the modes which have been adopted to adulterate it. In the latter part, indeed, we very frequently found some of his statements rather incredible, believing that some of the cases of adulteration mentioned by him were either too absurd, or displayed such a contempt of crime, as on the one hand amazed and on the other appalled us: but really a little reflection has changed our opinions; and when we find facts which are known to everybody, or which we have ourselves witnessed, equal to, if not exceeding any of those related by Chevallier, we are very much inclined to believe the entire. Some of the ridiculous are at the expense of the defrauder, as that of La R——, who mixed iron filings with a quantity of iodine, for the purpose of increasing the weight, and thus lost his iodine, and nearly lost his life.

In conclusion, however, we must say that although a book like Chevallier's may be useful in giving a list of the recorded adulterations, they are too scientific for the non-scientific, and are useless and sometimes even puerile to chemists. Let us take, for instance, the first article in his dictionary, "absinthe;" this plant, the *artemisia absinthium*, he says is sometimes adulterated with other plants of the same genus, such, for instance, as the *artemisia maritimum*, which he states has much smaller leaves, covered on both sides with a whitish down, and has a flavour and odour much less distinct than the true. We leave our readers to judge whether the mass of persons who are unacquainted with botany would be able, from this description, to detect the substituted plant. Again, in the second article: "Acetate d'ammoniaque," he mentions that this substance is sometimes adulterated with sal-ammoniac, which he states is detected by acidulating the solution by nitric acid, and adding nitrate of silver, which precipitates the hydrochloric acid; it may also contain sulphate of ammonia, which he says is detected by chloride of barium, which precipitates the sulphuric acid. Now, such processes are known to the merest tyro in chemistry; but if we suppose a person unacquainted with that science, or having merely the acquaintance gained from one or two courses of lectures on the subject, undertook to perform the above operation, his first step would be to procure some nitric acid of commerce, which, as all who are acquainted with the matter at all know, contains sulphuric and hydrochloric acids, and hence, with such acid, nitrate of silver, and chloride of barium, he would be able to find sulphates and muriates in every body

in nature. If we had taken more complicated substances the remark which we made above would be still more true. Hence we can conclude that, for the protection of the public from frauds of this kind, a staff of officers, properly educated, should exist; and for the safeguard of medicine, the apothecaries should pay more attention to chemistry, a recommendation which, if followed, would soon raise them to the same rank that their brethren on the Continent hold, who, it may be said without exaggeration, form the most useful and intellectual body in society, for proof of which we have merely to state, that more than half the great chemists of Europe, at the present moment, have been, and in many cases still are apothecaries, even in country villages.

A Manual of Elementary Chemistry, Theoretical and Practical. By GEORGE FOWNES, F.R.S., &c. Third edition. London, Churchill. 1850. Post 8vo. pp. 605.

A Practical Handbook of Medical Chemistry. By JOHN E. BOWMAN. London, Churchill. 1850. Post 8vo. pp. 259.

OWING to the untimely death of Professor Fownes, the completion of the third edition of his useful Manual of Chemistry was intrusted to Dr. Bence Jones, and it now appears complete in every department, and brought down to the present advanced state of this most important science. As a concise book of reference we consider it the best that has been published in the English language; but for the student we prefer the "Elements" of Sir Robert Kane.

Mr. Bowman by his present publication has well supplied a want in medical literature, much felt by the practising physician. In a clearly printed and beautifully illustrated little volume, he gives, at sufficient length, instructions for the examination and analysis of urine, blood, and a few other of the more important animal products, both healthy and morbid, and also directions for the detection of poisons in organic mixtures and in the tissues. Indeed, we know of no work which has lately issued from the press more likely to prove both useful and acceptable, especially to our country readers.

Portrait of Sir Philip Crampton, Bart., F.R.C.S.I., F.R.S., &c.
Painted by W. STEVENSON, Engraved by D. LUCAS. Dublin, Hodges and Smith.

Portrait of Sir Henry Marsh, Bart., Physician in Ordinary to Her Majesty. Painted by W. F. BURTON, Engraved by G. SANDERS. Dublin, Cranfield.

IN our last Volume we brought under the notice of our readers the admirable likeness of the late Abraham Colles, and we now beg to call their attention to the above excellent portraits of our only Irish medical baronets. We have a great dislike to biographies of eminent men written during their lifetime. What may be but just and deserved praise too often bears the semblance of flattery when applied to the individual still engaged in the busy struggles of professional life; we will, therefore, speak now of these engravings only as works of art.

The portrait of Sir Philip Crampton, which was published some years since, is a spirited and faithful likeness, conveying to the beholder the happy expression of one on whom time sits so lightly. While that of Sir Henry Marsh is a truthful representation of the beautiful painting by Burton, the highest praise we can bestow upon it: this engraving has been printed in Dublin by Mr. Cranfield, to whose spirited exertions we owe the introduction of this important department of the fine arts into Ireland; and for which, on the part of all interested in the prosperity of our country, we beg to tender him our warmest thanks.

We hope that the sale of these engravings will be sufficiently remunerative to induce their respective publishers to afford the profession an opportunity of possessing the likenesses of all those who have risen to eminence amongst us, and raised the character of Irish medicine and surgery throughout the world. An undertaking of this nature, as regards England, by Mr. Stone of London, we have, in a previous Number, spoken highly of; and Mr. Schenke of Edinburgh, some years since, published a series of admirable lithographic portraits of the eminent medical men of that city.

PART III.

REPORTS, RETROSPECTS, AND SCIENTIFIC INTELLIGENCE.

PATHOLOGICAL REPORTS OF THE CORK MEDICAL SOCIETY.

SESSION 1849, 1850.

Scarlatina; Anasarca; Albuminuria; Empyema of the left Side.—Doctor Finn narrated the following case.—Abigail Donovan, aged 8, of low stature and emaciated form, was admitted into the North Infirmary, on the 28th November, 1849, labouring under febrile symptoms, which ushered in an attack of scarlatina. In the course of her convalescence, anasarca, complicated with albuminuria, supervened. The former yielded to treatment, but the urine, which was secreted in very small quantities, still continued albuminous, and presented the appearance of being mixed with grumous blood, depositing from day to day, in great abundance, a dark pulverulent precipitate. On the 24th December she was suddenly seized with excruciating pain, referred to the lower part of the left side, which was relieved by the application of a few leeches and sinapisms, her wretched physical condition not admitting of more active measures. This treatment, however, did not control the incipient effusion, which now rapidly increased; the affected side, after an interval of a few days, measuring two inches more than the other; and the heart being observed to pulsate under the right mamma. She sank rapidly, and died on the 18th January, 1850.

Autopsy, about twelve Hours after Death.—Body emaciated to the last degree. On raising the sternum, a considerable quantity of sero-purulent fluid escaped from the left pleura; this fluid wholly occupied the left pleural cavity, amounting in quantity to about five or six pints, and on its removal the lung, which was so diminished in volume as almost to escape notice, was observed lying against the spine. The heart was placed across the mediastinum, with the apex corresponding to the right mamma. There was nothing abnormal in the size or external configuration of the kidneys. A

vertical section of one presented some patches of considerable vascularity, irregularly spread over the cortical portion, whilst the cortex of the other was of an opaque yellow colour, and devoid of vascularity.

Pleuritis with Effusion.—Tubercular Deposit in the Apex of each Lung, and in the false Membrane.—Dr. Popham exhibited the lungs of a patient who had died of the sequelæ of acute pleurisy. The subject from whom they were taken was a policeman named Delany, aged 23, of a strumous habit, who was admitted into the North Infirmary in January, 1850, complaining of severe pain in the inferior part of the left side of the thorax. The symptoms on his admission showed a very aggravated state of disease, and he had been more than a month ill, without receiving any treatment. His breathing was very rapid; while speaking he had to pause at every word to take breath; the only position which he could maintain was the sitting one, with an inclination forwards, and to the left side (the diagonal of Andral). On percussing the left side, it was completely dull at the left mammary and lateral regions, and posteriorly below the inferior angle of the scapula; no respiration was audible in these parts, and there was complete absence of the vocal fremitus, which was distinctly perceived over the opposite lung. The heart was not heard in its usual position, but was felt beating with great rapidity to the right of the sternum, between the fourth and fifth ribs, the sounds being otherwise normal. Additional proofs of the existence of liquid effusion into the left pleura were deduced from the fulness of the lower intercostal spaces, the increase of an inch in the measurement of the left side over the right, and the diminished mobility of the same side. These symptoms indicating that liquid effusion existed in the left side of the chest, he was treated upon the plan laid down by Dr. Stokes, by leeching successive parts of that side, and by the cautious use of mercury, which was, of necessity, combined with opiates, as his bowels were easily irritated.

When the more urgent symptoms abated, counter-irritation was used, and diuretics, including Lugol's solution of iodine, freely administered. After a few weeks of this treatment, a marked improvement took place, and also a change in the physical signs. The whole circumference of the chest had diminished, the excess of the left side had disappeared, the intercostal spaces became depressed, he could lie in any position, respiration had returned anteriorly as far as the left mamma, and the heart was heard under the sternum. A friction sound was heard about the inferior angle of the scapula. At this period it was judged advisable to send him to the sea side to recruit, but he most imprudently returned to his barracks, which were in an exposed situation, and got a fresh attack from cold. When he was re-admitted to hospital a month afterwards, he was suffering from colliquative diarrhœa, the result of improper food; evidence of tubercles existed under both clavicles, and the left side of the thorax was undergoing contraction. Signs of pneumonia were

also found in the lower lobe of the right lung. He died towards the end of May, five months from the date of his illness.

Autopsy.—The right lung adhered closely at its lower half to the walls of the thorax; and, on a section being made, exhibited small portions of the lower lobe in a state of hepatization, and of a very dark colour. The entire surface of the left lung was attached to the chest by a dense layer of false membrane, forming along the left margin of the sternum an impassable barrier which prevented the heart from returning to the left side. The adhesion of the lung continued all round and downwards as far as the base, the margin of which was rounded off, and turned in so as to give the central part of the base a cupped appearance; this was not attached, and contained a small portion of fluid. In the layers of false membrane which invested the anterior and inferior portions of the lung, and which, in some parts, were half an inch in thickness, and as hard as cartilage, were imbedded two masses, each about the size of a walnut, one greyish-yellow, firm, but cutting like wax, the other of a scirrhus hardness with a central cyst. Miliary tubercles, in small groups and single granules, were scattered over the false membrane of the left pleura; they were whitish, rounded bodies, about the size of pins' heads, and not unlike the variolous pustule in its early stage; they existed in greatest abundance in the interlobular septum. The appearance of the left lung was like an organ that had undergone compression; it was little more than half the size of the right; crude tubercles existed at the apex. At the summit of the right lung tubercles also existed in a more advanced state. There was some fluid in the pericardium; the heart was rather large, but otherwise natural. The liver was in a state of cirrhosis, and contained yellow tubercles, and ulceration existed extensively in the intestinal canal.

Dr. Popham considered the above case to form an interesting example of the transition stages of pleurisy. As far as the physical signs could be interpreted, extensive liquid effusion existed at an early period of the disease in the cavity of the left pleura, producing, among a number of other symptoms, dislocation of the heart, and protrusion of the side. Under the treatment pursued, absorption of the liquid contents took place, which was accompanied by gradual expansion of the lung, and partial return of the heart. As the liquid retired, and the two pleural surfaces came into contact, adhesion occurred by means of the plastic lymph effused, which, in the precordial region, interposed a barrier to the further return of the heart. As the absorption became complete, almost total adhesion of the lung to the thoracic walls ensued, as if to prevent a recurrence of the liquid effusion, and a small portion only remaining was isolated by adhesion of the margins of the base, thus circumscribing its limit. It would seem probable that, had life continued much longer, the pleuræ of the base of the lung and of the diaphragm, by the absorption of the small portion of intervening

fluid which remained, would have contracted union, thus completing the adhesion of the two surfaces in their whole extent. As far as the pleuritic affection, by itself, is to be regarded, nature had effected a cure, an obliterated pleural cavity, like an adherent pericardium, being compatible with life; but the state of the liver and intestines, and the strumous habit of the patient, evident in the subsequent development of tubercle in the summit of the lungs and the false membrane, precluded the hope of recovery. The continued production of tubercle would have kept up irritation. Dr. Popham drew attention to the opinion of Rokitansky, that chronic pleurisy, when terminating in contraction of the chest, rather tends to prevent the growth of tubercle; certainly to this theory exceptions occur, of which the present case is one, the evidence of the physical signs establishing the date of the development of tubercle in the apex of the lungs as a sequela to the attack of pleurisy.

Adhesion of Pericardium; unusual Symptoms.—Dr. Harvey presented an example of extensively adherent pericardium, with slight dilatation of the cavities of the heart (the substance of the ventricular walls being about natural), in which both the symptoms and the physical signs had been unusual.

The patient, aged 54, a man of long-continued habits of intemperance, and constantly exposed to wet and cold, was admitted into hospital about six weeks before his death. He then presented an extremely pallid, anemic aspect, with puffiness of the eye-lids and face, and slight general œdema; in fact, he had quite the appearance of a person far advanced in granular disease of the kidney. He had an exceedingly small and weak, but regular pulse, about 90. The heat of surface was generally below natural; and the bloodless condition of his smooth, clean tongue and lips corresponded with his general aspect. His chief complaint was a sense of sinking, and occasional nausea, with extreme debility. Bowels relaxed; urine natural in quantity, and did not coagulate on the application of the usual tests, which were resorted to several times during the progress of the case. It did not appear that he ever had rheumatism, nor did he recollect any distinct attack of his chest from which might be dated the commencement of the pericardial affection.

On physical examination the impulse and sounds of the heart were both so extremely feeble that they could with difficulty be appreciated, except while the patient was sitting up and leaning forwards. The second sound only could be heard as he lay supine in bed.

The total absence of any irregular, tumultuous, or rolling action of the heart, and the unusually weak impulse, added to the natural condition of the renal secretion, seemed rather to indicate degeneration of the substance of the ventricles than the conditions which were disclosed by the autopsy, and in consequence some other points, as the part at which the apex of the heart struck the chest, which would have been auxiliaries in the diagnosis, were not particularly noticed. The man did not die suddenly.

Hypertrophy of the Heart; Disease of the Aortic Valves.—Dr. Finn related the following case:—David Croker, aged 36, a butcher's assistant, of rather tall stature, but slight conformation, was admitted into the North Infirmary, 26th November, 1849. His habits were reported to have been intemperate, and his health had not been good for the last twelve months. He attributed his illness to wet and cold, and had suffered from severe cough for some time, and from hemoptysis for a few days before admission. On admission his face was sallow, slightly jaundiced; distressing cough, with muco-purulent expectoration, which is occasionally tinged with blood; tongue coated; urine high-coloured, depositing an abundant lateritious sediment. Percussion elicits a clear resonance over the chest generally, with the exception of those parts immediately adjoining the præcordial region. On applying the stethoscope, loud sonorous râles are heard generally. The heart impinges with an unusual degree of force against the parietes of the chest, and the impulse is audible over its whole surface; a loud and deep bruit de scie accompanies the second sound, and is propagated throughout the arteries generally, whose vibrations present a well marked example of visible pulsation.

In about a fortnight after admission the jaundice had disappeared, and the urine resumed its natural colour; but the cough, which appeared to be in abeyance during the day, returned at night with increased severity, and almost uniformly deprived him of rest. About the latter part of January all the symptoms presented an unfavourable change. The anasarca re-appeared; the cough had increased in severity; most distressing orthopnoea supervened; and he died on the 5th March.

Autopsy.—Lungs congested, not presenting any structural change. The weight of the heart was twenty-two ounces; it was concentrically hypertrophied. The aortic valves were corrugated, opaque, and studded with atheromatous vegetations. In the aorta, which was very much dilated, a similar change of structure was observed extending as high as the arch. The mitral valve was also diseased, but in a comparatively slight degree. No change of structure was observed in the right side of the heart. The other viscera were not examined.

Aneurism in the Left Ventricle of the Heart, with Rupture into the Pericardium.—Dr. O'Connor detailed the particulars of the case as follows:—A young man twenty-four years of age, apparently of a good constitution, was admitted into the Workhouse Hospital, labouring under a slight rheumatic affection of the left wrist, with scarcely any constitutional disturbance, and complaining of no other illness. Whilst engaged in an angry conversation with a patient in the adjoining bed, he was remarked to become suddenly silent, and to grow pale. In a few seconds after the nurse was called to him, and found him lifeless. On examination after death, the pericardium was found distended to twice its natural size, and, when opened, to be filled with a quantity of serum and clotted blood. On removing the

clots the heart was found to be very much enlarged, soft, and flabby. The free surface of the pericardium was natural, but that part reflected over the heart was covered with a layer of false membrane, evidently not of recent origin; and small tuft-like bodies, formed of organized coagulable lymph, were attached to its surface. About the origin of the aorta the two surfaces were united by small bands of great firmness. On the anterior portion of this latter vessel, and just at its junction with the heart, an aneurism larger in size than a walnut presented; and in it was a fissure about half an inch in length. On examining the opening with care it was quite manifest that only a part of it was of recent origin, the remainder appearing to have been a former rupture that had been temporarily closed. The valves of the aorta were completely disorganized by deposition of calcareous matter, behind a large mass of which, and immediately within the ventricle, an opening (into which the little finger could readily be introduced) existed: it passed through the walls of the ventricle obliquely into the aneurismal sac. The valvular character of this opening prevented the blood from being driven with any great force into the aneurism, and would render probable the supposition that there might have been at some former period a slight extravasation into the pericardium which would have produced the inflammation, the effects of which were apparent, without leading to fatal results. From his father I learned that he had been engaged at a very laborious employment until a few days before admission into hospital, and that he never knew him to be seriously ill; showing how little constitutional disturbance will occasionally attend on pericarditis. This case also proves that the disease may be cured without adhesion of the opposed surfaces of the pericardium; it is also interesting as showing the early age at which calcareous deposits may take place in the valvular structure of the heart.

False Aneurism of the Thoracic Aorta.—Dr. N. J. Hobart laid before the Society a specimen of false aneurism of the thoracic aorta. The most interesting feature in the case was the complete absence of any aneurismal murmur. He stated that he had visited the patient, Michael Scully, aged 55, on the 29th of December; he complained of severe cough, attended with difficult expectoration, of oppression and sense of constriction in the chest, occasional palpitations, and also of startings in his sleep. On examining his chest, a pulsating tumour, about the size of a hen's egg, presented itself on the right side of the sternum, between the second and third right sterno-costal articulations, over which also the tumour extended: the subcutaneous sternal veins were greatly increased in size, and particularly those passing over the tumour; there was some distention in the right supra-clavicular and supra-sternal regions, in which pulsation was very evident; the pulse was synchronous in both wrists, and there was no perceptible difference in the beat. On examination with the stethoscope not the slightest aneurismal murmur could be detected. The patient did not complain of any pain in the tumour or its neighbourhood, and stated that he had observed

the swelling for the first time but one fortnight previously. On the following day the patient was removed to the North Infirmary, and placed under the care of Dr. Hobart, Senior, where he remained until his death, three weeks subsequently; during this period, the distention in the right supra-clavicular and supra-sternal regions became greatly increased, while the tumour on the sternum remained stationary: the dyspnoea and dysphagia daily became more distressing, particularly the latter, until the 21st of January, when he sank. Strange to say, during the whole of this time the physical signs of aneurism were completely absent.

Autopsy.—The heart was somewhat hypertrophied; the aorta, both thoracic and abdominal, considerably dilated, and its internal surface studded with patches of calcareous matter. The aneurismal tumour extended from about two inches above the sternum in the neck to between three and four inches on the internal surface of that bone, and laterally on the right costal cartilages; the internal surface of the sternum was greatly eroded, particularly in one point between the second and third sterno-costal articulations, where the bone had been completely removed, and the tumour found its way to the anterior aspect of the sternum. The opening from the aorta into the tumour was about half an inch in diameter, and was placed on its superior surface, just at the junction of the ascending with the transverse portion of the aorta, not quite a quarter of an inch to the right side of the point where the innominata is given off: separating this from the aneurismal opening was a sharp calcareous spicula. The tumour contained a large quantity of coagulated blood and fibrine; its parietes were considerably thickened by the deposition of lymph on its internal surface; there had been no hemorrhage from the tumour. Death was occasioned by a gradual sinking of the vital powers, owing to the pressure of the tumour on the trachea and œsophagus.

Aneurism of the Abdominal Aorta at the Cœliac Axis ; Erosion of the Vertebrae ; Absence of Pain.—Dr. Popham presented specimens taken from a patient in whom the aneurismal diathesis was strongly marked, as throughout the whole extent of the aorta scarcely a part existed which was not studded with atheromatous and earthy deposits. After undergoing extreme dilatation at its ascending and transverse portions without rupture of its coats, the aorta had given way at the level of the cœliac axis, eventually causing death by bursting into the cavity of the peritoneum. The patient, named Michael Casey, a pensioner of the navy, aged 64, was admitted into the Cork North Infirmary in September, 1849, complaining chiefly of dysphagia and gradual emaciation, caused by the invariable rejection of solid food, almost immediately after being swallowed. According to his own sensations the morsel did not pass beyond the middle point of the sternum. Even fluids required to be used sparingly, in order to be retained by the stomach, a second effort of deglutition being usually necessary to prevent regurgitation. On examining him after his admission, a pulsating tumour was per-

ceived at the humeral end of the left clavicle, and a second, of much larger volume, between the ensiform cartilage and the umbilicus. The first time he noticed these tumours was about six months before, when he felt a fluttering sensation under the left clavicle; the epigastric pulsation came on subsequently. In the first, the throb could be felt both above and below the clavicle, and a double sound could be heard, the second indistinctly. The impulse from the tumour in the epigastrium was so strong that it gave to the ear a jarring and almost painful sensation; the sound was single, of a dull and muffled tone, and, though much louder, yet by no means as clear as the sounds of the heart, both of which were heard below the left mamma. No bruit de soufflet could be heard in any part of the chest, neither was any sound or pulsation evident in the course of the spine. The circumstance which most forcibly arrested attention in this case was *the great freedom from pain*, the only approach to which sensation, except when the tumours were compressed externally, was a slight dart, like the pricking of a needle, occasionally felt at the top of the left shoulder. His pulse was 70, very irregular, but of equal strength in both arms; great venous engorgement existed in the head, chest, and upper extremities. Towards the close of his life he suffered from dyspnoea, both constant and in paroxysms; and the position which afforded most relief was lying on the back, with the shoulders slightly raised, and inclined to the right side. The respiratory sounds were faintly heard over the right lung, and in some parts of the left side, but were inaudible below the left clavicle, and over the scapula posteriorly. His voice was not affected.

This patient expired suddenly on trying to get out of bed. The autopsy was obliged to be made hurriedly, but the chief parts engaged were removed for subsequent examination. On opening the abdomen, a large quantity of serum, slightly tinged, gushed out, and an immense mass of dark coagulated blood lay mingled with the intestines. On removing the viscera, the abdominal aorta was found closely adherent to the lumbar vertebræ, an annular opening of about an inch in diameter existing in its posterior wall, below the first pair of the lumbar arteries. The edges of this opening were rounded off, and had to be separated by the knife; the lumbar vertebræ, to which it was attached, were deeply eroded, and the cavity thus formed was in direct contact with the current of the circulation during life. An aneurismal tumour projected from the anterior and right lateral aspect of the aorta, forming a pouch of an ovoid shape, the size of the closed hand. The celiac trunk proceeded from the lower part of the sac, but a probe passed along it failed to discover any communication. The superior mesenteric artery, however, was free, and its root greatly dilated. The usual coagulum of laminated fibrine was found in the sac, adhering closely to it in every part except a small channel, through which the blood had insinuated itself between the coagulum and the wall of the sac, opening by a small orifice at the superior part of the tumour. The aorta, on emerging from the sac, was constricted.

The ascending aorta and the arch were dilated to more than double the normal diameter, without any part becoming sacculated, or there being any fibrinous deposit: the dilatation lessened at the beginning of the descending portion. One of the aortic valves was patent from earthy concretions at its root, the rest were free; the orifices of the coronary arteries were greatly dilated, and the *arteria innominata* was enlarged to a size equal to the ordinary caliber of the aorta. On looking for the superior tumour no sign of it was visible externally; but on removing the left lung, the superior lobe of which was condensed and closely adherent, a small aneurismal tumour was found at the acromial end of the clavicle, projecting into the thorax, and containing fibrine, and, as far as could be determined on a hasty inspection, connected with the subclavian by a rent in its tissue, or a dilatation of one of its branches. The whole of the internal surface of the aorta was roughened by atheromatous deposits of various degrees of softening; these were intermingled with semi-cartilaginous layers, and extended into most of the larger arteries.

Dr. Popham stated that he brought the above case before the Society, as affording a remarkable exception to the general rule, that acute pain of the back existed when erosion of the vertebræ from aneurism occurred. This symptom, as far as he could discover, was first noticed by the late Dr. George Pearson, of St. George's Hospital, in a very interesting case of aortal aneurism, published in the thirteenth volume of the *Edinburgh Medical and Surgical Journal*. Lately Dr. Law, of Dublin, has directed attention to the duplex character of the pain suffered, viz. one kind permanent and aching, the other occasional and lancinating, as a symptom sufficiently constant to become a valuable diagnostic mark of the disease. Dr. Law's well-known accuracy of observation, and the frequent verification of his rule, by examples occurring to himself and other eminent physicians, have already stamped a value upon this sign; still it cannot be regarded as one of *universal* occurrence. Why it did not exist in a case of so much arterial lesion and degeneration as the above, Dr. Popham did not pretend to say. Perhaps the almost universal disease of the arterial system, by diminishing equably the contractile power of the aorta, had some effect, the loss of elasticity in the superior portion of the tube lessening the impetus of the current passing through the aneurism. Something also is due to the direction of the tumour, and its pressure on important structures, and to the feeble circulation and torpid sensations of advanced age. The dysphagia and stomach symptoms were explained by the pressure which the aneurism, by means of the pancreas crossing it, must have exercised upon the stomach, and by the deficient supply of blood arising from the impervious state of the celiac artery. Another remarkable circumstance was, the fact of so large an amount of disease in the circulating system being compatible not only with life, but, to all appearance, with apparent health. This man had stated that he had not suffered any serious illness until a year previously, when he had

bronchitis and erysipelas of the scalp. There is reason to believe that the extensive changes which occurred in this case were of slow growth, thereby existing without material disturbance to health.

Concentric Hypertrophy of Heart; Disease of the Aortic Valves; Paralysis of the Right Side; Ramollissement of a small Portion of the Corpus Striatum.—Dr. Finn described the following case:—Michael Lyons, a cooper, aged 20, of moderate stature and slight conformation, admitted into the North Infirmary on the 22nd June, 1849; was reported to have suffered from the epidemic fever and dysentery of 1847, and subsequently from an attack of acute rheumatism. Since the latter seizure his health had been seriously impaired, and the palpitations of the heart which supervened wholly incapacitated him from resuming his former occupation. On admission his countenance was remarkably pale and anxious; eye-lids and lower extremities slightly œdematous; respiration hurried; pulse 120, wiry and bounding; percussion elicits a dull sound over a space considerably exceeding the normal limits of the precordial region; the impulse of the heart is violent and tumultuous, and on applying the stethoscope a loud bellows murmur, loudest in the supra-mammary region, and audible over the whole surface of the chest, is perceived to accompany both sounds of the heart. There is visible pulsation of the arteries generally.

For some time after admission into hospital, he appeared to have experienced some benefit from the treatment employed, when suddenly a certain peculiarity of manner and the slowness of his articulation indicated the cerebral complication that was in progress. In a few days afterwards he was seized with paralysis of the right side, the sensibility of the parts involved remaining unaltered. From this period to the fatal termination of the case on the 14th August, his verbal memory became remarkably defective, and the œdema of the eye-lids and lower extremities, which had previously yielded to treatment, re-appeared, the effusion being considerably greater in the paralysed than in the opposite leg.

Autopsy, a few Hours after Death.—The lungs were generally congested. The heart weighed twenty-one and a half ounces; the aortic valves were studded with atheromatous deposits, and the surface of the mitral valves was rough to the touch. On dividing the dura mater and exposing the brain, the vesicular neurine presented a remarkably anemic appearance. Horizontal sections of the brain revealed an absence of vascularity corresponding with that observed on the surface. A small portion of the corpus striatum on the left side exhibited the characteristic appearance and consistence of ramollissement.

Salivary Calculus.—Dr. Haines described the following case:—A man over sixty years of age applied for advice for an inflammatory tumour and hardness under the right side of the tongue, extending up from the submaxillary gland, which was to be felt enlarged, hardened, and somewhat prominent under the margin of the lower

jaw. He stated that this tumour had existed since his childhood. There were two or three points under the tongue, presenting a muco-purulent appearance. Aperients, fomentations to the jaw, and a cleansing wash for the mouth, were ordered, and he was desired to call in a couple of days, when it was intended to open the tumour under the tongue if necessary. In four days he called and stated that on that morning something rattled suddenly against his teeth, and that he at first thought it was one of his teeth which had fallen out; this was the calculus which Dr. Haines now exhibited. It was of an irregular oval form, about the size of a moderate hazel nut, and weighed twenty-four grains. The swelling in his mouth had considerably subsided, and he felt quite relieved.

A case somewhat similar to this had been related to the Surgical Society of Ireland. It was that of a young woman aged 21. She had felt the increase of the tumour from about her sixth year, and attributed its origin to an inflammatory attack after scarlatina. In both cases may be observed the very long period during which these calculi continue to increase. It is only by an obstruction of the duct, or the production of irritation, that they become troublesome and inconvenient, by causing tumour and inflammation.

An opportunity occurred of seeing this man at the end of twelve months; all swelling and hardness of the gland and surrounding parts had disappeared.

Chronic Abscess of the Liver, opening into the Pleura; Cicatrized Ulcers in the Rectum.—Dr. Harvey exhibited the liver and large intestine of a gentleman aged 27; the latter presenting the cicatrices of several recently healed ulcers, the former the seat of an enormous conical abscess, which occupied nearly the whole of the right lobe, and projected for many inches above the surrounding surface. The diseased organ had gradually encroached on the right pleural cavity, until the lung had collapsed to one-third of its natural dimensions. The walls of the abscess, with which the diaphragm had become incorporated, were so thinned on their upper surface, that, on opening the cavity of the thorax, pus flowed in great quantity.

The patient had been gradually losing flesh for over twelve months, but continued actively occupied, chiefly in the country, up to the time of his seeking advice for a troublesome and debilitating diarrhoea, of which he had several attacks. At this time he had frequent liquid feculent stools with patches of bloody mucus, passed without tenesmus or pain; indeed he had no pain from the first. There was no other abdominal tenderness, except in a slight degree over the sigmoid flexure of the colon. The tongue was not much loaded; pulse 100; occasional perspirations at night; no cough nor dyspnoea. His debility had increased considerably of late, but his appetite and sleep were good.

After some preliminary treatment with a view to correct the bowel affection, one or two enemata, consisting of half a drachm of nitrate of silver in eight ounces of distilled water with a little mucilage, were exhibited; when the bloody mucus totally disappeared

from the evacuations, and the bowels assumed a perfectly healthy action, and they continued quite well thenceforwards. The rapid pulse and constitutional irritation remaining unaltered after the improvement in the bowels, the source of this continued disturbance was further inquired into, when the right side of the thorax was discovered to be seriously engaged. It was found of greater girth than the opposite side, and dull throughout on percussion; respiration was only to be heard along the spine in the scapular region, but the intercostal spaces were not elevated, as in cases where fluid distends the pleural cavity: it was evident that the cavity was filled by a solid tumour, and that tumour proved to be hepatic abscess, with its contents as yet undischarged.

Death from swallowing a Copper Penny.—Dr. O'Connor detailed the history of the case as follows. A young gentleman, about eighteen years of age, called on him in a state of great mental uneasiness, stating that he had a short time previously swallowed a copper penny, that he at first made ineffectual efforts to grasp the coin with his finger, and that an apothecary whom he consulted immediately afterwards was equally unsuccessful in his efforts to extract it. A probang was afterwards passed without any difficulty, and he was comparatively well for several days, except that his bowels became very costive, so as to require the administration of very active aperients. In about a week from the date of the occurrence, he felt severe pain in the right hypochondrium, about the situation of the pylorus, which became more severe every day, extending up the right side towards the shoulder. Subsequently he had some degree of nausea and vertigo, and complained of a very peculiar distressing sensation, which he described as resembling a sudden and violent raising upwards of the right side of the body, from the point in which he felt the pain, to the top of the head. This feeling recurred frequently and distressed him very much. When this state had lasted a few days, he suddenly discharged a large quantity of blood by the bowels, and very soon after a quantity of clotted blood by vomiting.

The ordinary remedies were had recourse to, but the hemorrhage continued until the patient expired, about four-and-twenty hours from the first discharge of blood. The apothecary, who was in attendance, stated that, immediately after death, he distinctly felt the coin in the part where it was suspected to have been impacted, namely, in the pylorus, but an opportunity was denied of testing the correctness of this opinion by a *post mortem* examination.

Doctor O'Connor considered the novelty of the occurrence of death from such a cause a sufficient reason for bringing the case under the notice of the Society, more particularly as in books there is more generally found a recital of the extraordinary substances that have been swallowed and passed through the alimentary canal without producing much injury, than of the exceptional cases in which death has been produced by swallowing objects apparently less calculated to cause danger.

Uterine Hydatids.—Dr. Haines described the following case: A woman, aged thirty-three years, mother of five children, weaned her last child at about the nineteenth month, in consequence of having menstruated twice. In about three months after weaning the child she was seen accidentally in the country by Dr. Haines, when she was suffering from occasional losses of blood; a globular tumour could be felt in the lower part of the abdomen, which was evidently the uterus above the brim of the pelvis: there was nothing remarkable at the os uteri. In about three weeks from that period, Dr. Haines, being in the same neighbourhood, was told that this woman was very ill, and on visiting her, he found that she had considerable discharges, and had passed a quantity of a substance which filled a dinner plate. The uterus was now subsiding into the pelvis, the os uteri large and flabby, with apparently a few shreds still about it. A bandage having been applied, no farther loss took place, and she recovered, merely suffering from the not unusual flying headache. It was ascertained that in about two or three weeks a further separation of some of this same substance occurred, that she had taken some drops, and was since walking about, quite well.

In what was probably the centre of the hydatiform mass exhibited to the Society, there existed a large fragment of membrane of serous appearance, very like the amnion; between its walls a few serous bands extended, and bound them towards each other, a circumstance which we do not usually meet with in the amnion, though they are occasionally present, and have been seen by the author in blighted ova. On the outer side of this membrane were attached the vesicles in all stages of growth, depending from each other, and some smaller even appended to their foot-stalks. Diffused among them was the soft clot which is generally observed in such cases, and appears to be esteemed by writers an essential part of the mass. All the cells appeared to have a flocculent, filamentous layer on their exterior, covering and enclosing a clear serous layer. It is more than doubtful if these vesicles grow from the wall of the uterus by stalks, as has been said, though they may have some filamentous connexion by their surfaces, and through the medium of the soft interposed lymph-like substance. Dr. Haines doubts that these bodies have ever been found except as the result of conception, the ovum undergoing, at an early stage, an interruption to its ordinary mode of development, probably before passing from the Fallopian tube, that is, before the membrane of the chorion is completed, or its villi begun to be formed. This is probably the point of failure in the embryo, the amnion is then formed, and there may be sufficient vitality in this membrane, and in the decidua, to permit of all this abnormal development in these membranes of the ovum, and in what would be the natural situation of the chorion.

The farther fact in connexion with this case may be worth recording, that this woman afterwards conceived, and at twelve months after the escape of the hydatids, she gave birth to a living child at the full period. She died ten or eleven days after child-birth, but of what illness Dr. Haines could not learn.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY
OF DUBLIN.

TENTH SESSION.—1849–50.

Encephaloid Tumours in the Abdomen.—Dr. Stokes laid before the Society the morbid parts illustrative of a case of prodigious development of encephaloid tumours, surrounding the aorta and vena cava, and extending from the celiac axis to the bifurcation of the aorta. There was nothing remarkable in the history of the case. The patient had been for a length of time in very bad health; he laboured under chronic and intractable diarrhoea, and when he came into the Meath Hospital was in a very exhausted condition. At this period he suffered from ascites, and the superficial abdominal veins were varicose. The epigastric region was occupied by a flat tumour, which gave a somewhat feeble pulsation. This pulsation (which was not diastolic, as in cases of aneurism) was accompanied by a distinct bruit de soufflet. In connexion with this bruit de soufflet two remarkable circumstances were observed. One of these had been before noticed, viz., the cessation of the murmur when the patient assumed the erect position. But the other circumstance to which he alluded had not, he believed, been previously remarked. It was, that there had been observed for several days a distinct rhythmical character in the murmur. It was found that the murmur was most distinct at the termination of the expiratory effort, but at the height of inspiration it was either inaudible or exceedingly indistinct. He need hardly observe, that in this case there was a combination of symptoms greatly opposed to the idea that it was one of aneurism. The occurrence of ascites, the enlargement of the abdominal veins, the state of the patient's general health, the feebleness of the pulsation in the tumour, and the rhythmical character of the murmur, formed together a group of signs completely opposed to the existence of aneurism, and accordingly he arrived at the conclusion that it was not a case of aneurism, but that in all probability the tumour was of a malignant nature. But it was found, after death, that what was felt in the epigastrium was not the tumour he had diagnosed, but was really the left lobe of the liver which covered the true tumour. In this respect, then, namely, as throwing light upon the physical signs of a tumour receiving an impulse from the aorta, and that impulse being communicated from the tumour which received it to an organ by which it was covered, viz., the liver, the case possessed great interest. In this instance the sound was conveyed through two separate formations. The morbid mass consisted of a vast number of enlarged mesenteric glands, several of them being equal to the kidney in size, and all presenting the characters of encephaloid disease: they closely embraced the aorta and

vena cava. Sections of the tumours exhibited a creamy, brain-like fluid, several white tubercles, and sanguineous matter. It was a very interesting fact, in connexion with the last-mentioned circumstance, that exactly at a point corresponding to the centre of the tumour, the aorta was very much diseased, being filled with ossific plates, and its lining membrane much disorganized in this situation. But, both above and below this spot, the artery was comparatively healthy. It was certainly a remarkable feature in the case, that, in a patient who had this bellows murmur, they should find a diseased state of the artery precisely in the position where the murmur had been heard; and yet it would appear that this diseased condition of the artery had not produced the murmur, for whenever the patient was examined in the upright posture, by which pressure was taken off the artery, the murmur ceased. They were, therefore, led to conclude, that even the vast amount of disease found in this instance was not in itself competent to produce the murmur, and that for its production pressure was required. Upon the edge of the liver a hard scirrhus mass was found to have been developed.

Before he concluded he might remark, that in the present case, as in many others, it was found that when a tumour lay upon the abdominal aorta, the bruit de soufflet disappeared on the patient assuming the erect position. The Society was aware of the researches of Dr. Corrigan upon the diagnosis of the early stages of aneurism of the abdominal aorta, in which he had shown that in certain cases the bruit de soufflet disappeared on the patient assuming the erect position. It was very interesting to observe that in cases of this kind the same combination of physical signs might be produced from a totally different mechanism. In Dr. Corrigan's cases the bruit de soufflet disappeared in the erect posture, because, according to him, the aneurismal sac became tense. But, in the case then before the Society, the same circumstance occurred in consequence of the pressure being taken off the artery when the erect position was assumed. It was only just, however, to remark, that the views of Dr. Corrigan were not put forward with a view to establish any differential diagnosis between aneurism and a tumour pressing upon an artery.

Injury of the Shoulder-joint.—Dr. Adams described a case of dislocation of the head of the humerus forwards, which had been reduced, with the account of the *post mortem* examination of the articulation, made thirty days after the occurrence of the luxation, the patient having died from the effects of another injury sustained fourteen days before her decease.

Eliza Dillon, aged 65, applied for surgical aid at the Richmond Hospital on October 27, 1849. She stated that she had fallen with much violence, and with her left arm extended from her side, in such a manner that the shock was chiefly sustained by the inner part of the elbow. The resident pupil, Mr. Johnston, recognised the usual characters of dislocation of the head of the humerus forwards; he noticed a remarkable flattening of the deltoid muscle,

and felt the head of the bone in its new situation. His colleague, Mr. Roden, also recognised the injury, as did likewise Surgeon Bichaque. The head of the bone was replaced without difficulty, Mr. Johnston having adopted the plan of placing the knee in the axilla; the patient expressed herself relieved, and went home. In a few days she returned to the hospital, complaining of more pain in her shoulder-joint than patients usually do after the reduction of this dislocation, when she was subjected to the ordinary treatment for a sub-inflammatory condition of the articular structures.

On the sixteenth day after the shoulder had been luxated, this woman, being deaf and rather feeble, while heedlessly walking across the street, was knocked down by a passing vehicle, and received a compound fracture of the elbow-joint, of which, after having suffered from constitutional irritation and erysipelas for fourteen days, she died. The left shoulder joint was examined after death: the deltoid muscle having been reflected, it was seen that the supra and infraspinatus muscles had torn off a large portion of the great tuberosity of the humerus, and that this portion had been partially re-united to the shaft by recent bony deposit. The anterior portion of the tuberosity, which lay next to the bicipital groove, still remained entire, and gave attachment to some of the tendinous fibres of the posterior articular muscles already mentioned.

Upon exposing the subscapular muscle, its upper margin, near to the coracoid process, seemed somewhat ecchymosed; and upon lifting up this muscle from the subscapular fossa, in the vicinity of the coracoid process, some well-formed pus was evacuated from the interior of the joint.

The capsular ligament was of a yellowish white colour and thickened, but no rupture could be discovered in it. On cutting into it the whole of the synovial membrane was found to be in a high state of vascularity. The appearance which it presented might be compared to that of the conjunctiva when in a state of acute inflammation. Upon examining the glenoid cavity it was discovered that a portion of its inner margin was torn off. This piece of bone was more than half an inch in length, and three lines broad. The cartilage of incrustation of the head of the humerus presented a porous appearance, as if punctated by small pin-points, and was very thin, as in some examples of diffuse inflammation.

With respect to the muscles in this dissection, it is to be remarked that they seemed to have suffered no injury. The supraspinatus and neighbouring short articular muscles are those which in general have been found to have suffered most in cases of dislocation of the shoulder; although in this instance these muscles were not torn, their tendinous insertion had been partially broken off. The double lesion of the tuberosity of the humerus and inner margin of the glenoid cavity, if it had been to any greater extent, might have prevented the head of the humerus from being preserved in its socket after the reduction of the displacement, and thus have presented a repetition of a specimen preserved in our museum, and

which Mr. Smith has already laid before this Society. In the case I have brought before the meeting, the bone, once replaced, remained in its socket; but in Mr. Smith's case, as the tuberosity was entirely torn off, all the posterior articular muscles, which should have retained the bone in its place when restored, had lost connexion with the humerus; it was thus abandoned altogether to the force of the muscular folds of the axilla, which displaced the bone forwards and inwards, and held it in the abnormal position. Mr. Thompson, about the year 1792, first noticed that a dislocation of the humerus might be complicated with a fracture of the tuberosity; and Sir Philip Crampton published a similar case, in the third volume of the First Series of the Dublin Medical Journal.

With respect to the capsule in Sir A. Cooper's and Sir Philip Crampton's cases, this ligament was extensively torn. In the case now adduced, examined thirty days after the injury, no rupture of the ligament could be observed. We may, I think, from this infer, that in this case, notwithstanding the obvious deformity observed, the degree of displacement must have been to the smallest amount possible, as the capsular ligament had not been torn; yet there can be no doubt but that the head of the dislocated bone lay beneath the root of the coracoid process. It is true the laceration of the insertion of the posterior articular muscles may have allowed the posterior portion of the capsular ligament to yield somewhat, and the tearing off of the inner or anterior margin of the glenoid cavity may have contributed to the same result.

Amongst the Hunterian manuscripts were found, in the handwriting of John Hunter, the notes of a case of dislocation of a shoulder-joint, which resembled this in many particulars. A man was admitted into St. George's Hospital, London, with a dislocation of the humerus into the axilla, which was reduced, and about three weeks afterwards he died of fever. "I was anxious," says John Hunter, "to see the state of the parts in so recent a dislocation. On dissecting off the infra and supraspinatus muscles I found nothing uncommon respecting the capsular ligament; but when I dissected off the subscapularis I found the ligament in some degree injured, so as to have lost a good deal of its uniformity. It was of a dark bluish colour in consequence of extravasation of blood into it, in part absorbed. I cut the capsule round nearly to the os humeri, where it was sound, so as to expose the inner surface of the ligament, and found that on the inner surface, between the insertion of the tendon of the subscapularis muscle into it and its fixture to the edge of the glenoid cavity, it was injured, corresponding to the external surface, although I could not say fairly ruptured through. I also found that a circular part of the cartilage on the edge of the glenoid cavity, to which the ligament is attached, was torn away from the bone for about an inch of the circle, and which must have been pulled off when the head of the humerus pressed against the ligament with great force; but it kept its attachment by the remainder. The separation was such that it could not allow anything to

pass between the bone and it. There was little or no extravasation of blood in the cavity of the joint; but, what was very remarkable, and what I did not expect, I found a good deal of pus in the joint. If this is common in such cases, what becomes of it? Here," he adds, "was a case of *undoubted* dislocation, and yet the capsular ligament was *not torn* when the luxation was effected, although it must be supposed that the giving way of the cartilage at the edge of the glenoid cavity admitted the ligament to yield more than it otherwise would. Although the ligament was not torn so as to let the head of the bone escape through the rent part, yet the head of the bone was certainly out of the socket; and, from all the appearances and circumstances taken together, how it got there without doing more mischief I do not understand."—*Catalogue, Royal College of Surgeons, England*, vol. ii. p. 206.

In visiting the museum of the College of Surgeons of London, two years ago, I took particular notice of this preparation thus alluded to in the catalogue; and I at the same time felt astonished that these facts, recorded by John Hunter himself, had escaped, as far as I knew, the notice of those who had written on dislocation of the shoulder. This case recurred to my mind with much interest when I met with the specimen I now present to the Society. From such cases as these we should infer that we ought to examine carefully every case of luxation of the shoulder-joint, both before and after we have replaced it, with a view of ascertaining if the luxation is a simple one, and unaccompanied by fracture or lesion of bone besides the luxation; and, secondly, that we should watch any symptoms of arthritis in time, in order to meet them with appropriate treatment, and prevent any serious consequences. In the case I have presented we discovered an amount of inflammation of the shoulder-joint, which no one had anticipated to have existed at the time when the patient was carried off by the effects of another injury.

Scrofulous Tumour in the posterior Wall of the left Ventricle of the Heart.—Dr. Banks detailed the particulars of the following case of diseased heart, and exhibited the recent specimen. The subject of the case, a boy aged eighteen years, was admitted into the Whitworth Hospital on the 7th of December, 1849. The strumous diathesis was strongly developed, his chest was observed to be deformed, and he had a lateral curvature of the spine. All that could be learned of his past history was, that in early childhood he had laboured under an attack of acute rheumatism, and that ever since, whenever he made any extraordinary exertion, he suffered from pain and palpitation in the region of the heart. About three years before his admission into hospital he had a second attack of acute rheumatism, from which period the pain and palpitations became much more frequent and distressing than before, and his breathing also became seriously affected. About six weeks before his admission, on rising suddenly from the stooping posture, he experienced

a sensation of weight and oppression in the cardiac region, and from that period to the moment of his death the palpitation and sense of uneasiness about the heart never left him. When admitted into hospital, on the 7th December, there was œdema around the eyes, and he was unable to breathe except while in the upright position. There were also severe pain and palpitation in the region of the heart, and he suffered much from sleeplessness. On looking at the front of the chest the impulse of the heart was visible over a considerable extent of surface, and, on placing the hand over the cardiac region, Dr. Banks detected a decided *frémissement*. With the assistance of the stethoscope he discovered a most intense bruit in the cardiac region, but found it impossible to distinguish between the first and second sounds. The heart beat with great rapidity and violence, contrasting in a remarkable manner with the pulse, which was feeble and irregular. There was also great dulness in the region of the heart, and on measurement he found that it extended over five and a half inches in the vertical direction, and five inches in the transverse. On the day after his admission the boy was seized with acute bronchitis, accompanied by copious expectoration, which was tinged with blood. The difficulty of breathing now became so intense that he died on the fourth day from his admission.

On opening the chest he found that the extent of the dulness observed during life exactly corresponded with the space occupied by the heart. This organ was greatly enlarged, but the enlargement was chiefly due to the presence of a large quantity of blood within it. The left auricle was both enlarged and hypertrophied, and its lining membrane was of a yellow colour. The pulmonary artery was also dilated, and filled with a large dark-coloured coagulum. The aorta was rather smaller than is usual at this period of life. The pericardium was found adherent throughout its entire extent, from which circumstance it might perhaps be inferred that the acute rheumatism (from two attacks of which the boy had suffered) had been complicated with pericarditis. In the substance of the posterior wall of the left ventricle, at its junction with the auricle, a tumour as large as a walnut was found. It was encysted, and contained calcareous matter and a substance resembling putty, which consisted of carbonate of lime. It involved one division of the mitral valve, and projected into the ventricle in such a manner as to obstruct the auriculo-ventricular opening. The left ventricle was neither dilated nor hypertrophied. The lungs were slightly emphysematous.

Fragilitas Ossium.—Professor R. W. Smith exhibited the pelvis and thigh bones of a female who had suffered from this disease, and which had been forwarded to him by Dr. Campbell, of Lisburn. The following was the history of the case, as furnished by Dr. Campbell:

Eliza Cosgrave, about forty-five years of age, a married woman, and mother of two children, the elder being nine years old and

healthy, the younger having died when about three months old, began shortly after the birth of her second child to complain of pains in her limbs, and generally over her body, which she attributed to her residence in a damp house. She soon became so helpless as to be unable to get into or out of bed without assistance. On one occasion, while being helped into bed, her thigh was struck against the bed-post, and the femur broken just below the trochanter. She now obtained admission into a neighbouring hospital, where she remained for many months, and was then discharged without having experienced any amendment of her condition. In this state she was removed into the Lisburn Union Workhouse, about two years ago. On examination the injured limb appeared to be about three inches shorter than the other; there was no crepitus, although acute pain was experienced when the thigh was handled or moved. Her general health at this time did not appear much broken, and her appetite was good; but her pains, chiefly in the thigh, were so severe as to require the administration of an opiate every night. Several months having elapsed in this manner, one night, whilst the nurse was turning her in bed, the other thigh was also broken near the trochanter, after which her pains for some weeks were mitigated to a certain extent. Diarrhoea at length set in, and resisted all treatment; her pains returned with greater violence than before, and she died after a few weeks of extreme suffering.

Upon examination after death the fractures were found to have occurred about two inches below the great trochanters; they had both become consolidated, but with great deformity remaining, the fragments being, upon each side, at right angles with one another. The pelvis and thigh bones were so light as to float upon water, and so fragile that a slight pressure of the finger was sufficient to crush the osseous tissue. The compact structure of the femora was as thin as an egg-shell, and the medullary canals enlarged, here and there crossed by delicate osseous septa, and filled with a grumous semifluid substance, resembling a mixture of medullary matter and blood. Mr. Smith observed that the facility with which fractures united in such cases was remarkable, the union, as Mr. Stanley has noticed, occasionally taking place within the ordinary period. Mr. Tyrrell has recorded, in the Reports of St. Thomas' Hospital, a case of fragilitas ossium, in which twenty-two fractures occurred, and observes that the injuries were repaired with greater rapidity than he had seen in other individuals, the union of the fracture of the femur being perfectly firm at the expiration of three or four weeks.

Mr. Smith, in conclusion, alluded to the extraordinary case of this disease recorded by Saillant(a), in which the lightness of the osseous system was such that the patient, an adult female, when placed in a warm bath, actually floated upon the surface of the water.

(a) Journal de Médecine, Chirurgie, et Pharmacie, 1782, t. lviii. p. 141.

Perforation of the Small Intestine.—Dr. Mayne exhibited the recent specimen, and detailed the particulars of a case of fatal peritonitis, caused by perforation of the small intestine.

The subject from whom the preparation had been removed was a man about thirty-five years of age, who had spent his whole life, with the exception of the last few months, in London. In the early part of the past summer he came to Dublin to superintend one of the principal departments of a large manufacturing establishment; and from this time, according to his own statement, his health, which had previously been good, began to give way. At first he attributed the altered state of his health to the unwholesomeness of the neighbourhood in which he lodged, and subsequently to the water of the city; but, whatever may have been the real cause, certain it was that, from the period the cholera made its appearance in Dublin, he suffered from severe diarrhœa, which came on about twice in the week, each attack being followed by a torpid condition of the bowels. In addition to this the patient became excessively nervous, insomuch that, whenever a fresh attack of diarrhœa set in, he imagined he had got the prevailing epidemic. However, notwithstanding the impaired state of his health, and his extreme nervousness, he never absented himself from his business, even for a single day, until about the beginning of September, 1849, when, for the first time, he was obliged to remain at home. About the 5th or 6th of December he was seized with what he supposed to be an attack of influenza. Febrile symptoms, with pain in the head and chest, short cough, and some difficulty of breathing, suddenly supervened; but, instead of sending for medical assistance, the patient commenced the treatment of his own case by taking a very powerful purgative draught, which produced at least ten or twelve copious stools, by which the patient's strength became so much reduced that he was obliged to confine himself to bed. On the morning of the third day from the commencement of this attack, he (Dr. Mayne) was sent for; but he was unable, after a most careful examination, to detect any abdominal complication in the case. There were general pyrexia, some headach, and thirst, and a kind of bronchitic cough, accompanied by a slight amount of irritation about the chest, though, upon examining the thoracic region, he could only discover a few bronchitic râles. The abdomen was pretty soft, and free from tenderness, and the patient made no complaint whatever of pain in that region. His first idea was, that it was a case of the ordinary catarrhal fever, and that the patient was likely to get over the attack. When he visited the man on the following morning he appeared to have improved considerably; but towards the evening of the same day a messenger called upon him to say, that a sudden change for the worse had taken place. The patient had now acquired the aspect of a man who laboured under organic disease of a serious character; he complained of severe pain in the right lumbar region, just above the situation of the kidney; his face wore an expression of intense anxiety; the whole surface of the body

was covered with a clammy sweat; the pulse was small, and almost intermittent. There were also a slight degree of singultus, and flatulent distention of the abdomen.

The first impression which arose in his mind, with reference to the cause of the foregoing symptoms, was, either that an ulcer had perforated some portion of the intestinal tube, or that a calculus had become impacted in one of the ureters. There was, on the one hand, no vomiting, and, on the other, no pain in the neighbourhood of the testicle. He gave the patient at once a large opiate, and directed that an emollient enema should be administered, to relieve the pain in the bowels, which had continued for many hours. When he saw him a few hours later the urgency of his symptoms had somewhat abated, but the singultus still continued, and the bowels had not been yet moved by the enema. He then ventured to take away a small quantity of blood from the arm, and directed calomel to be taken every second hour, together with large doses of opium. He also prescribed another emollient enema, but the patient only lived about thirty-six hours from the first accession of pain in the lumbar region. The tenderness, which was general over the abdomen, continued up to a short period before his dissolution, and he had all the appearance of a person who was dying of intense peritonitis.

On laying open the abdomen a large quantity of fetid gas escaped, and the usual anatomical signs of peritoneal inflammation were observed. A perforation was discovered in the lower part of the ileum, and presented a similar appearance to that which would be produced if a portion of intestine was removed with a punch. On examining the mucous surface of the perforated intestine, he was surprised to find but little appearance of vascularity in it. The gut exhibited no traces of tubercular deposition, but was somewhat softened in the neighbourhood of the ulcer. The thoracic viscera were healthy, with the exception of a slight bronchitic inflammation.

The question then naturally arose—what was the cause of the perforation? It could not have been tubercle, as there were no traces of scrofulous deposition anywhere observed; and he thought it could scarcely be regarded as one of those perforations which were essentially connected with fever, from its having occurred so soon after the accession of the febrile symptoms. It was evident, from the appearance of the ulcer, that it must have existed for a considerable time before these symptoms set in; and this opinion was confirmed by the irregular state of the bowels during the long period the patient was labouring under alternate attacks of diarrhoea and constipation. In his opinion, therefore, the perforation was a mere accidental complication of the fever.

Encephaloid Tumour in the Abdomen.—Professor R. W. Smith exhibited a specimen of a large malignant tumour, removed from the abdomen of a man, aged 41, who had died a few days since, under the care of Dr. Banks, in the Whitworth Hospital. In December, 1848, his left testicle, which had been the seat of malignant disease for eleven months, was removed in the Richmond Hospital by Mr.

Hamilton. The wound, however, had only just healed, when a small tumour showed itself along the course of the spermatic cord; this was immediately cut out, and, when the incision had healed, the patient left the hospital.

Towards the close of last year, he was admitted into the Whitworth Hospital, greatly emaciated, and having the aspect of a person suffering from malignant disease. A large tumour could now be distinctly felt in the region of the pancreas; it was painful, solid, and without pulsation. Shortly after his admission into the hospital, the patient died, and the *post mortem* examination disclosed a tumour about the size of half a melon, lying principally upon the front of the aorta and vertebral column, and having the pancreas closely adherent to its anterior surface. The chief bulk of the tumour lay to the left of the middle line, and the splenic artery took an exceedingly tortuous course along the front of the morbid structure, and behind the upper edge of the pancreas. A section of the tumour exhibited the usual appearances of encephaloid growths; that portion, however, which lay to the right of the aorta, contained superiorly a multilocular cyst, filled with a dark brown fluid. The interior of the cyst resembled so much dilated renal calyces as, at first sight, to give rise to the suspicion that the kidney was the seat of the disease. The aorta ran through the substance of the tumour, about one inch from its posterior surface, while the vena cava, separated to a considerable distance from the arterial tube, coursed along the front of the tumour near its right edge. The interior of the vein contained, at its lower part, coagulated blood, but above its coats were perforated by a circular aperture about a quarter of an inch in diameter, through which some of the malignant structure projected into the interior of the vessel.

In this case the tumour was not accompanied by pulsation, as happened in the instance communicated to the Society by Dr. Stokes, during the present Session(a). In Dr. Stokes' case, the pulsation (which was not diastolic, as in cases of aneurism) was accompanied by a distinct bruit de soufflet, which ceased, however, when the patient assumed the erect position.

It was remarkable that, at the first meeting held by the Pathological Society, viz., December 1, 1838, Dr. Graves exhibited an encephaloid abdominal tumour which lay upon the front of the aorta and vena cava, and in this instance the interior of the latter vessel was obliterated by a substance quite analogous to that of which the tumour was composed. The tumour also had a distinct, but not diastolic pulsation, accompanied by bruit de soufflet while the patient lay on his back, but which ceased when he was placed in the erect posture.

At the same Meeting, also, Sir Philip Crampton exhibited an example of encephaloid tumours in the lungs of an individual whose left testicle had been removed for fungus hæmatodes three months previously to his death.

Sir Astley Cooper has delineated the morbid appearances in a case where the vena cava was found filled with a fungoid growth, four months and a half after the extirpation of the testis for encephaloid disease(a).

Jaundice.—Dr. Law exhibited the stomach, duodenum, and liver, with the gall-bladder and biliary ducts, removed from a patient whose death was preceded by most distressing irritability of the stomach and jaundice. The mucous membrane of the stomach was deeply congested; but that of the duodenum presented no unusual vascularity. There was no apparent obstruction in either the systic or hepatic ducts, or ductus communis choledochus. The subject of the case was a woman, aged 50, a cook, of a full, plethoric habit of body; she was admitted into Sir Patrick Dun's Hospital, on the 5th of December, 1849, affected with acute rheumatism, involving the knees, feet, and wrists, all of which were red, painful, and swollen. There was a good deal of febrile excitement, with loaded tongue, and other indications of digestive derangement. For some days she took pills, composed of blue pill, James' powder, and acetic extract of colchicum; and although she improved under the use of this combination, Dr. Law wished to try the effect of bleeding with caution, as he considered the case one of gout complicating the rheumatism. He therefore directed venesection to the extent of eight ounces. The blood coagulated firmly, and was both buffed and cupped. The bleeding produced decided relief, and was repeated in three days, but with the same caution, and was attended with the same relief. The rheumatic affection had almost disappeared, leaving behind but slight pain, for which a mixture of decoction of cinchona bark containing hydriodate of potash was ordered. Under this treatment she appeared quite convalescent; but, at the end of three weeks, she was seized with distressing sickness of stomach and retching, which she attributed to a feeling of disgust at seeing a patient with bronchitis in the adjoining bed expectorate on the floor beside her. The efforts of retching were very violent and exhausting, and as they continued for some time, resisting the means employed to restrain them, Dr. Law suspected that they were due either to gouty irritation of the stomach, or to the passage of a biliary concretion; a suspicion which the full habit of the patient, added to a bilious complexion, seemed to countenance. The day after Dr. Law expressed this opinion the patient was jaundiced. The skin was yellow, and the excretions presented the appearances usually observed in jaundice. The irritability of the stomach at length yielded to treatment. She now became delirious, and exhibited a tendency to stupor, but from which she was roused by a blister applied to the nape of the neck. It, however, again returned, and was again relieved by a blister. The jaundice was less marked, but still existed. The irritability of the stomach, although much mitigated, still distressed her a good deal. All appetite was gone. She seemed

(a) Part II. plate ix.

to be quite worn out, and thus expired at the end of a fortnight from the time the new set of symptoms came on, and which seemed to have so little connexion with the original disease for which she was admitted into hospital. Dr. Law remarked on the cause assigned by the patient herself for the nausea with which the fatal symptoms began, and to which the jaundice soon succeeded. Strong moral impressions or emotions were a common source of jaundice; a feeling of disgust might be supposed to operate in the same way. He next adverted to the delirium and coma which constituted such prominent symptoms during life, and considered them to depend upon the state of the blood vitiated by the bile. He was of opinion that a close analogy existed between such cases and certain renal affections in which the urea, not being separated from the blood, acted as a poison on this fluid, and gave rise to certain nervous symptoms very like those presented by animals from whom the kidneys had been removed, and whose blood, when examined, was found to contain urea. In certain cases of jaundice, also, in which the disease came on with all the violence and suddenness of an apoplectic seizure, the patient quickly passed into a state of coma, soon to be succeeded by a fatal convulsion.

Dr. Law remarked that this was a very frequent mode of death in the cholera that recently prevailed, in cases in which, the other symptoms having disappeared, the kidneys did not act, a complete suppression of urine still continuing.

Dr. Law noticed the difference of opinion existing among physicians on the subject of jaundice, whether it depended upon absorption of the bile, or upon the elements of the bile being retained in the blood, the bile not being secreted. He remarked upon the presence of jaundice while there was no obstruction in the ducts, and no evidence of inflammation in the duodenum. In such cases the existence of spasm of the ducts has been, but without proof, regarded as the cause of the jaundice. The heart, in the present instance, was remarkably soft and flabby.

Congenital Dislocation of the Head of the Radius forwards.—Professor R. W. Smith exhibited a cast and preparation of this rare malformation of the elbow-joint, and made the following observations respecting it. In February, 1840, in a communication upon the subject of abnormal elbow-joints, Mr. Adams detailed the particulars of the case of a man named Horseman, whose right elbow-joint presented an example of congenital luxation of the head of the radius upwards and outwards, and exhibited a cast, showing the external characters of the deformity(*a*); and in March, 1849, he brought before the notice of the Society the subject of congenital luxations of the head of the same bone backwards. Upon the present occasion, through the kindness of my friend, Dr. Mayne, I have an opportunity of exhibiting a cast and preparation of congenital dislocation of the radius directly *forwards*. I may here mention, that

(*a*) Dublin Medical Journal, first series, vol. xvii. p. 505.

the female who was the subject of this deformity had likewise congenital dislocations of the wrist and of the knee; to these, however, I shall not now allude, but shall confine myself to the consideration of the condition of the elbow-joint. The woman was about forty years of age, and had been long an inmate of the South Dublin Workhouse; she died of an attack of acute dysentery in the early part of 1849, and the following were the results of the examination of the left upper extremity:—

The fore-arm was flexed upon the arm at a right angle, beyond which it could not be bent, and could only be extended so far as to form a slightly obtuse angle. It remained habitually in the semi-flexed position, with the hand midway between supination and pronation; neither of the latter motions could be fully performed.

The joint, viewed upon its external aspect, presented a remarkable projection, formed by the outer condyle of the humerus, which descended so low as to be, in the semi-flexed position of the joint, nearly upon the same level as the commencement of the olecranon process of the ulna; it was, moreover, curved forwards and inwards, so as to present posteriorly a striking convexity; it was much larger and more prominent than the internal condyle, which, however, also seemed to be placed lower down than natural with respect to the ulna.

The summit of the olecranon, in every position of the joint, was placed above the condyles; but its lower portion, where it springs from the shaft of the ulna, was in a great measure concealed between these processes.

Directly in front of the enlarged outer condyle of the humerus a rounded osseous tumour could be felt, which, as it partook of every motion imparted to the shaft of the radius, was concluded to be the head of that bone; as much of it as could be felt was of an orbicular form.

Comparing, in my mind, these appearances with those observed in the case of Horseman, whose elbow-joint I had frequently examined, and who was known never to have received an injury, nor to have suffered from disease of the articulation, there was no difficulty in arriving at the conclusion, that the case afforded another example of congenital dislocation of the head of the radius; and the opinion that the luxation was congenital was further confirmed by the co-existence of the malformations of the right upper and of the left lower extremities, which I have already mentioned. There exists, however, this difference between the two cases, namely, that, in the present instance, the head of the radius is displaced forwards, while in that of Horseman, it is described by Mr. Adams as being dislocated upwards and outwards.

The muscles (which, although pale, were not remarkably attenuated) having been removed, the bones and ligaments were carefully examined. The lower extremity of the humerus presented no traces either of trochlea or capitulum, nor any evidence of these processes having ever existed. In place of them there existed a deep fossa or

excavation, into which was received the great sigmoid cavity of the ulna, in such a manner, that when the fore-arm was flexed to a right angle, the coronoid process struck against the front of the humerus, and extension was at once checked by the olecranon coming in contact with the back of the same bone.

The outer condyle of the humerus, which was much larger than natural, and curved forwards, was deeply excavated anteriorly, in such a manner as to form with the lesser sigmoid cavity of the ulna, which was also enlarged, a socket which accommodated the head of the radius, which was strangely altered from its natural form.

This process, instead of presenting a circular outline with a concave summit, resembled in form the section of a sphere, its internal portion being, as it were, cut vertically, so as to present a surface nearly flat to the altered lesser sigmoid cavity of the ulna; the rest of the head of the bone, namely, all that could be felt through the muscles and integuments, was of an orbicular shape (as in the case of Horseman), and rolled in the excavation of the humerus already mentioned, during the motion of supination, which could be carried to a much greater extent than that of pronation. Both these motions were, however, very confined, for the lower extremity of the radius was as ill adapted to their complete execution as the superior. The lower extremity of the radius, which, in the natural state, presents a concavity where it articulates with the head of the ulna, was in contact with the latter by a nearly flat surface.

The superior extremity of the ulna was twisted in such a manner that the cartilaginous surface of the greater sigmoid cavity of the ulna was directed inwards. The neck of the radius could not be said to exist, the head springing almost directly from the shaft of the bone: the reverse of what is usually found in cases of congenital luxation of the head of the radius backwards, the neck of the bone being in these cases elongated to such a degree as to render the radius and ulna of equal length. The external and internal lateral ligaments existed, but ran in a direction nearly horizontal; the former passed outwards in an almost transverse course, to be attached to an exceedingly thin, broad, and imperfect coronary ligament.

The similarity which this case bears to that detailed by Mr. Adams will be rendered evident by the following extract(a): "When we view the joint on its external aspect, the outer condyle is observed to be large, and placed as low down nearly as the olecranon process; above it a very conspicuous orbicular eminence is seen, which moves freely with the radius when a motion of rotation is communicated to the fore-arm; the inner condyle also descends very low down; the two condyles and the lower portion of the olecranon process (in the semi-flexed position of the joint, which it ordinarily remains in) are on the same plane; the lower extremity of the humerus is probably excavated to receive the greater sigmoid cavity of the ulna. The neck of the radius rotates on the ridge of the humerus, which

(a) *Loc. cit.*

descends to the outer condyle, above and somewhat behind the plane of the most anterior part of which the head of the bone is placed." Mr. Adams remarks, in conclusion, that this is the third case of lateral dislocation of the radius recorded, and the first of the congenital luxation of this kind as yet exhibited to the profession.

In the same year, that is in 1840, Guérin recorded a case of congenital luxation of the head of the radius forwards and upwards(*b*), but the record is so brief and so completely deficient in details as to be of little value. It is as follows: "*Luxation de la Tête du Radius en avant et en haut*, consistant dans le glissement de cet os au-devant de l'humérus, vers la fossette coronoïde de ce dernier. Cette luxation est nécessairement accompagnée de diastase des articulations radio-cubitales et de pseudo-luxation du carpe. Nous avons eu l'année dernière, dans notre service, une jeune fille de sept ans offrant la même difformité des deux côtés."

Three varieties of congenital luxations of the head of the radius have now been established, viz.: backwards and upwards; forwards, upwards, and outwards; and directly forwards.

Malignant Tumour simulating Abdominal Aneurism.—Dr. O'Ferrall wished to place the following case on record, as one which might afford some assistance in the diagnosis of tumours. The facts of the case were as follows:

A woman, aged sixty years, was admitted into St. Vincent's Hospital, complaining of dysphagia, accompanied by severe pain, radiating from the lower third of the sternum, the point to which she referred the obstruction, towards the back, and upwards between the shoulders. These were her only complaints. She stated that she felt the food she swallowed becoming obstructed at a spot situated between the middle of the sternum and the xiphoid cartilage. The pain was of a neuralgic character, and caused intolerable suffering to the patient. At the time of admission, the dysphagia nearly amounted to an inability to swallow liquids. For a considerable period before she was admitted she had been unable to swallow solid food, and even liquids were taken with so much difficulty that, if swallowed too fast, they were immediately rejected. Her countenance bore all the appearances which were usually met with in a person labouring under malignant disease. There was nothing in the case to induce him to explore the œsophagus itself, for there was too much reason to suppose that an attempt to do so could not be productive of any advantage, whilst it might possibly be the cause of mischief. A careful examination was made, in order to ascertain the state of the abdomen and chest. The lungs and heart appeared to be healthy, but a loud and rough murmur was heard just behind the xiphoid cartilage, and about one inch below it. From the character of this murmur, the term *bruit de râpe* was the only one that could be fairly applied to it. The murmur was of

(*b*) Gazette Médicale, 1840.

course heard most distinctly when a moderate amount of pressure was made upon the part with the stethoscope, by which the parietes were brought nearer than usual to the deep-seated parts, and it became fainter as the instrument was pushed forwards in the act of inspiration. It was, to a certain extent, rhythmical, that is, it admitted of a division into four periods. Three distinct murmurs could be heard, and then came an interval of silence. This interval corresponded to the end of each inspiration, and he (Dr. O'F.) believed it to be due to the fact, that the ear of the observer was removed by the descent of the diaphragm to such a distance from the seat of the bruit that every fourth murmur became inaudible. When respiration was interrupted for a few seconds the rhythmical character of the murmur ceased, and every sound was heard.

The question then arose, what was the nature of the disease? The loud murmur, and the presence of the dysphagia, at once suggested the idea of a tumour of some kind interfering with the descent of the food into the stomach. But what was the nature of this tumour? From the presence of the murmur it might be suspected to be an aneurism; and this opinion would be strengthened in the minds of some pathologists, by the fact that the bruit became much fainter or inaudible when the woman was standing. However, from an early period after this woman came under his observation, he had made up his mind that she had not aneurism, but that the symptoms were owing to malignant disease. The bruit might be produced by either; and, as to the effect of posture, he had been long convinced that all abdominal bruits, proceeding from any cause whatsoever, become louder in the horizontal, and fainter in the erect position. Moreover, when the patient was placed in the prone position, and was then examined along the spine, no murmur could be detected. Lastly, the margin of the liver could be felt by careful manipulation to be thickened and irregular, and, from its condition and the appearance of the patient, he would have diagnosed malignant tubercle of the liver, if neither dysphagia nor bruit had existed. From these data he made the diagnosis mentioned, three months ago.

The progress of the case was similar to what it usually had been in other cases of the same kind. The difficulty of swallowing liquids increased, she wasted rapidly, and at length the breathing suddenly became oppressed, and pleuritic effusion supervened without any evidence of inflammation.

On opening the body after death, the œsophagus was found to be obstructed by a mass of malignant disease, which encircled a considerable portion of the tube, and reduced its caliber in a remarkable degree. A mass of the same malignant structure existed between the aorta and the spinal column, the former having, as it were, to ride over the tumour in its descent into the abdomen. Here, then, was a sufficient cause for the murmur which had been heard. The liver presented very perfect specimens of malignant tubercle.

(To be continued.)

MEDICAL MISCELLANY.

Cases of Small-pox complicated with Purpura Hemorrhagica. By
MAURICE H. COLLIS, M. B., F. R. C. S. I.

[An abstract of a paper read before the Obstetrical Society of Dublin,
March, 1850].

DURING last autumn and winter small-pox was very prevalent in this city, and among the lower orders was peculiarly severe and fatal. In the district of the South-eastern Dispensary I met with a great number of cases of all degrees of severity. The symptoms were in general of the ordinary type; but in nine cases purpura complicated the disease. On searching for information to guide me as to the treatment of them, I was astonished to find few records of such cases, and those of the most vague and unsatisfactory character; although the complication seems to be by no means rare in this country. To assist in supplying this want, as far as a description of the appearance and progress of the disease can do so, is my object in publishing the following notes; and I regret much that in the matter of treatment they can afford little, if any, aid to those whose misfortune it may be to meet with such cases.

The FIRST, SECOND, and THIRD CASES were all members of the same family, residing in a small, badly ventilated room, in a very filthy court, which is a perpetual nidus for infection of all kinds. The children lay in the same bed, even after the death of one. The eldest, a boy of six years, was attacked with epistaxis on the first day of the appearance of the small-pox eruption. This stopped spontaneously, and on the third day spots of purpura made their appearance on the trunk and extremities, but none on the face. They were of the ordinary form of purpura, brilliant, well-circumscribed, red spots, not disappearing on pressure, getting darker as soon as they had reached their full development, and varying in size from a mere pin's point to that of a split pea. The pock was small, and came out badly, the skin being of a leaden hue and cold. Epistaxis returned on the fifth and seventh days, and was stopped by plugging the nares. On the seventh night it again returned, and was so copious as to cause fatal syncope before assistance could be obtained. The treatment ordered was a combination of stimulants and acids, with a little opium; but I cannot vouch for its having been followed out. Cases II. and III. were a girl, aged 5, and a boy aged 4, both with immense crops of variola, becoming confluent and mixed with purpura, preceded by epistaxis, and terminating fatally on the sixth and seventh days. The pock was from an early period of a large size, rapidly became confluent, and in

colour was a muddy white, assuming a sanious hue before death. None of these three had been vaccinated.

CASE IV.—A boy five years of age, living in the next room to the preceding, presented symptoms of the same character as Cases II. and III. and died on the fifth day. He had, however, no epistaxis, though the spots of purpura were very abundant. He was naturally delicate, and had not been vaccinated. His brother, a child six months old, had a mild, modified attack. Three other children died of small-pox in this house before I went to attend there; but I could not find out whether they had purpura or not.

CASE V. was remarkable in several points. The patient was a fine, healthy, English boy, four years of age, son of a soldier, well fed all his life, and had as good nursing and attendance as was possible during his illness. He had been vaccinated by Dr. Gibson when three months old, and others were vaccinated with infection taken from him; the mark on the arm also was plain. He was seized on Thursday with violent epistaxis, and lost much blood. A medical practitioner who was in attendance plugged the nares, and ordered an emetic, which brought up a large quantity of pure, fluid blood, which had been swallowed. On Friday more blood was passed from the bowels. The child was weak and feverish, and on that evening the small-pox came out. On Monday I saw him for the first time, and found a large crop of pustules over his face and extremities, but fewer on the body, with small spots of purpura scattered all over the surface, as if with a paint brush; a few of large size, but the majority the size of small pins' heads. From their colour they gave the impression of its being the second day of their presence. The general symptoms were unfavourable: pulse 156, rapid, small, and weak; breathing hurried; skin hot; the child restless and peevish; his eyes bright; lips glazed and dry; tongue foul from clotted blood; gums inclined to bleed. He complained of pain in the abdomen; the bowels had been moved, and some more dark, fetid blood passed; the urine was scanty, high-coloured, and passed with pain. To reduce the determination to the skin and bring it into healthy action, I ordered a warm bath, more for experiment's sake than from any great expectation of success; also a gentle purgative, to be followed by acids and quina, lemonade, jelly, &c. Next day the spots were larger, more numerous, and very brilliant. Seventh day.—Pock becoming confluent; bowels acting gently; no blood passed from them; mouth and tongue swollen and sore. Eighth and ninth days.—Purpura disappearing; pock very full, and confluent. He complains of pain in the head; and is dull and heavy, and very weak. Ordered the hair to be cut off, and cold to be applied to the head, and to stop taking quina. Tenth day.—All traces of purpura were gone; but there was an angry erysipelatous redness of the right arm, which was twice the natural size, oedematous, hot, and painful. The child was stupid, and squinted with the right eye, and the head was very hot. Mercurial ointment was applied all over the arm, and one leech behind

each ear, and two grains of grey powder were ordered to be given every third hour, calomel not being considered advisable from the spongy state of the gums. Next day the inflammation of the arm had gone, but the head, though relieved for a time, got worse. He became comatose, lost all power of swallowing, and died at 4, A. M., of the twelfth day of his illness. In this case vaccination did not modify the disease, which in so young a child is a most unusual circumstance. It is the only case I have met with or heard of in which purpura occurred along with small-pox in an individual that had been vaccinated; and in all the other cases it might be traced to bad diet, prolonged residence in unhealthy localities, or to a scrofulous constitution.

CASES VI. and VII. were under my care during only part of their illness. Both were large, fat, young women, of scrofulous habit, with imperfect menstruation. One had epistaxis on the fourth day. On the sixth purpura appeared in scattered spots on the extremities. On the eighth she died, of sudden cerebral effusion; the purpura having become darker during the last twenty-four hours of life. The other girl had few spots of purpura, but was loaded with small-pox. She was admitted into Sir Patrick Dun's Hospital, where she had inflammation of the larynx, which was twice subdued by leeches and calomel. She afterwards died of congestion of the brain. The purpura did not increase after the appearance of the laryngitis. The only medicine which she got while under my care was a purgative of castor oil and turpentine, which may, very probably, have checked the hemorrhagic tendency.

CASE VIII., a boy aged 5, had suffered from dysentery for a fortnight previously to his getting variola, and was a sallow, unhealthy-looking child. Purpura appeared on the fourth day; he complained of violent pain in the abdomen, and in the region of the kidneys. His pulse was high, and he had all the symptoms of fever. By mistake he got a double dose of castor oil and turpentine, which purged him severely, but with no bad result, for on the third day from that he was convalescent.

A NINTH CASE was fatal on the second day of the small-pox; the amount of purpura was enormous; all the cutaneous and as much of the mucous surfaces as could be seen being thickly set with brilliant red spots. The small-pox did not appear until these were at their height, and then occupied all the space between them; in no place, as far as I could find, coinciding with them in situation. The fever was high; there was severe bronchitis; the breathing was difficult, and the voice hoarse. As there had been no hemorrhage, and the child had been healthy and well fed, I thought depletion would be expedient, and ordered one leech to each side of the larynx, and two to the top of the sternum; but before they could be applied he died in a sudden fit of dyspnoea, most probably from spasm of the glottis.

These cases strengthen the opinion so generally entertained at present, that purpura is not a cutaneous disease, even in that modi-

fied sense in which that term is now used; for the spots follow no regular course either of duration or of development. Some, when first observed, were no larger than pins' heads, and next day had increased to three or four times that size, and after that became darker and remained so until death, or gradually faded away. The shortest time occupied in these changes was two days; the longest, a week. In some cases the spots did not increase in size after their first appearance; in others they enlarged rapidly. In one, after becoming slightly dark, they suddenly increased in size, and became again brilliantly red. A more careful analysis may enable us to deduce some rule of progress. In five cases epistaxis preceded; in four of these the spots appeared the second day after epistaxis, and, in the fifth, not until the third day. This case was protracted, the child having been healthy previously, and making a great struggle against the disease. The remaining cases had no epistaxis; of these, one had little purpura, and it disappeared rapidly; the other two had immense crops of variola, and sank at once; the fourth had been weakened by dysentery. In the case in which epistaxis occurred three times there was no approach to absorption. The case in which the spots after becoming dark again got brilliant was characterized by great virulence, and a tendency to secondary inflammation. In one case only did the purpura precede the variola, and in this case there was no hemorrhage.

From a comparison of these circumstances we may, I think, conclude, first, that where hemorrhage precedes, the amount of purpura depends on the loss of blood. Secondly, that its occurrence without loss of blood is to be attributed to the same violent determination to the skin which causes large crops of small-pox. Thirdly, that its progress depends on a combination of both these circumstances, namely, loss of blood and amount of eruption; and, lastly, that the date of its appearance is not constant, as regards that of the pox, but that, when epistaxis precedes, it appears about two days after this symptom.

Should these conclusions be correct, there are evidently two indications for treatment: to diminish the violent cutaneous inflammation, and to impart such tone to the vessels as will enable them to bear it without giving way. For the former, I do not know that we possess any effectual agent. In one case I tried the warm bath, but with no perceptible effect. For the latter object, acids and quina, which are most relied on, appear to have no time to influence the constitution. What we want is a rapidly diffusible tonic. Turpentine has been highly recommended as such; but it was used without success in most of these cases. Still it is a valuable medicine, and will be found useful in many confluent cases, especially where the state of the bowels permits it to be combined with opium. I have often observed its use followed by a great improvement in strength, and where the pustules were of a dusky colour, and not filling properly, it seemed to check the increase of size in their base on which this depends, to make them maturate and dry up more

rapidly, and so decrease the amount of ulceration and subsequent pitting(a). In two of the worst cases which I ever saw recover it was used, and the amount of marking is very inconsiderable. My reason for mentioning it here is chiefly because on two occasions its employment was followed by a curious set of symptoms. After about the fourth dose, the lining membrane of the pharynx began to be inflamed; and the medicine being continued, the inflammation spread to the larynx, and, on visiting the patients next day, they were found suffering from a sort of laryngitis. The parts, as far as could be seen, were of a vivid red, not much swollen, and not at all œdematous. There were no pustules on the mucous membrane as far down as could be seen, to the irritation of which the inflammation might be attributed. Neither tonsils nor epiglottis were swollen. A few leeches removed all these symptoms, which were most likely caused by the direct action of the turpentine.

During this epidemic there were some fatal cases of œdema of the glottis; but, owing to the difficulty of obtaining *post mortem* examinations, it is difficult to form any estimate of their proportion. I am inclined to think that it is by no means an unfrequent cause of death in children(b); but in some cases, in which it was suspected to have arisen, the feel of the parts was so unsatisfactory and inconclusive that I cannot state so with certainty.

On the Indications afforded by the Occurrence of Intermittent Pulse during the Progress of Natural Labour. By THOMAS PUREFOY, M. D., Physician to the Fever Hospital and Dispensary, Clough-jordan, County Tipperary.

Mrs. C., somewhat advanced in years, of sallow complexion and slight figure, was taken in labour of her first child on the 16th of April, 1850, at an early hour in the morning. The labour was natural, and no unusual symptoms occurred, with the exception of a distressing sense of sinking, and oppression at the præcordia, accompanied by nausea and vomiting of bilious matter. In the afternoon the pulse was found to be irregularly intermittent, but of moderate fulness and good strength. The intermittent character of the pulse was most decided immediately after each expulsive effort of the uterus, at which period also the feeling of oppression and difficulty of breathing were very distressing. The labour was

(a) In the twenty-eighth volume of the former series of this Journal a paper was published by Dr. Neligan on the efficacy of *large* doses of oil of turpentine in the treatment of uncomplicated purpura hemorrhagica; and in my eighth case, the only one of those I have now recorded which recovered, a large dose of it was administered accidentally. However, in the complication of small-pox with purpura, as in all diseases which are obscure in their nature, I believe that no one remedy will prove specific, and that the largest amount of success will be obtained by a judicious selection and combination of such remedies as circumstances may direct.

(b) Some interesting remarks by Dr. Fleming on this subject will be found at page 90 of the present Number.—ED.

safely completed by the natural efforts, at 12 at night; and the uterus having been steadily pressed down by the hand into the lower pelvis, a pad was applied immediately above its fundus, and a roller passed tightly around the hips.

The patient had not been many minutes at rest upon her left side, from which she had not turned since her delivery, when flooding commenced. Ergot of rye was immediately administered, cold applications employed, and cold air freely admitted into the bed-room; this treatment had the effect of checking the hemorrhage, which, however, soon returned again to an alarming extent. The roller was now removed, when the uterus was found much enlarged and distended by a quantity of firm coagula; these were quickly expelled by pressing firmly with the hand upon the uterus, from above downwards, and thus exciting the contractile efforts of the organ. The tendency to hemorrhage, however, continued obstinately for two hours, but finally yielded to steady pressure made with the hand upon the fundus uteri during this period, whilst a decoction of ergot of rye was three times administered at intervals, and cold applications diligently applied; aromatic spirit of ammonia was the only stimulant given. Recovery went on progressively, and the patient was able to leave her bed at the end of a week.

This case, *in itself merely*, is of little interest; but, taken in connexion with the facts detailed in Dr. Cane's paper on uterine hemorrhage, published in the sixth volume of the present series of this Journal, it is, in my opinion, of some importance, since it completely tests and verifies the accuracy and great practical value of his observations. I confess that, although practising midwifery for many years, I was not aware that the tendency to uterine hemorrhage, during or subsequently to labour, was ever indicated by an irregular or intermitting pulse, until I had read Dr. Cane's valuable paper. As the subject of uterine hemorrhage is, undoubtedly, one of the highest interest to every practitioner of midwifery, would it not be most desirable that the character of the pulse in cases of hemorrhage should be accurately observed and noted by individuals much engaged in this branch of the profession? The result of extensive and well-directed observation would at once decide upon the relative value of the diagnostic indications afforded by irregular or intermitting pulse occurring during the progress of labour.

Case of remarkable Obstruction of the Pulmonary Semilunar Valve. By
ARTHUR LEARED, M. B., Physician to the Oulart Dispensary.

ON the 18th of April, 1850, I saw, in consultation with Dr. Irvine, Master F., an exceedingly delicate-looking and ill-developed boy, eight years of age, whose pinched and anxious features, causing him to appear still older, contrasted singularly with his puny and diminutive figure. All the information as to his previous history that I could glean was, that he had always presented the same appearance; that he had never exhibited the playfulness and activity natural to

infancy, and, in a word, had dragged on from his birth to the present moment an existence of the most passive nature conceivable. It was further stated by his mother that at the former period it was with great difficulty that animation was established. This description appeared now strikingly applicable to him, sitting close to the fire in a low arm-chair purposely constructed for him, with his head supported against the chimney-piece, seldom moving or speaking except from necessity, breathing quickly and with difficulty; and though presenting an aspect of great distress, he uttered no complaint, and declared himself free from pain. Dr. Irvine, however, informed me that he suffered a good deal from cough in addition to this dyspnoea, both of which were partially relieved by expectorants, together with the application of flying blisters.

On examination we found the chest narrow and prominent, the cardiac region presenting extensive dulness, while the action of the heart was strong, rapid, and somewhat intermittent; and on applying the stethoscope a most intense bruit de soufflet accompanying the first sound was audible over the whole anterior part of the thorax. The impression made upon my mind was that the case was one of mitral valve incompetency, either congenital or occurring in early infancy, with consequent hypertrophy; and in this opinion Dr. Irvine concurred. We ascertained that he was not known to have suffered from rheumatism.

The poor sufferer had latterly been gradually growing evidently worse and more emaciated, till at length, on the morning of the 12th of May, he expired; his death occurred, however, rather unexpectedly.

In the *post mortem* examination, which was made thirty hours after death, I was assisted by Dr. Irvine. The body was much emaciated, surface pale, abdomen swollen, scrotum distended with serum, but lower extremities not oedematous. On opening the thorax the cause of the prominence on the surface was at once evident, the pericardium and heart occupying much of the space of the lungs, the base of the former extending much higher than usual, while the margins of the latter were forced aside; this was the case especially on the left side, the lung being here greatly reduced in volume from the pressure. Both lungs were almost universally infiltrated with tubercular deposit, in some places advanced to suppuration; there was considerable effusion in the pleural cavities and in the pericardium; both lobes of the liver were enlarged, and it was much congested, so that when cut into blood exuded copiously. The heart was fully as large as the healthy adult organ(a); when removed, and its cavities opened and washed out, it was found to weigh eight ounces and a quarter. The right side was manifestly seen to exceed the left in dimensions. The ventricle here exhi-

(a) Dr. Williams states that the average weight of the healthy adult heart is eight and a half ounces for males, and seven and a half ounces for females.

bited in a marked degree what has been termed "eccentric hypertrophy," its cavity being much enlarged, and its walls thickened so as considerably to exceed those of the left in substance. This was particularly observable near the base of the pulmonary artery, where they measured about three-fourths of an inch in thickness. The auricle of this side was much dilated, its appendix remarkably so; the left ventricle was also similarly hypertrophied, but in a less degree; its auricle was, in proportion, remarkably small and thin. There were openings for three pulmonary veins. The foramen ovale was open at the top, the aperture being nearly one-fourth of an inch in diameter. A ribbon-like prolongation from the septum to the lining membrane of the auricle extended across it. Below and to the right was another smaller opening, across which two or three similar but very minute bridges extended, resembling miniature chordæ tendinæ. There was no irregularity in the arrangement of any of the vessels connected with the organ.

On ineffectually endeavouring to pass my finger through the pulmonary artery into its ventricle, the cause of the mischief became revealed, for, on slitting the vessel, this was found to result from closure of its orifice from adhesion of the laminæ of the valve by their edges, so as to present the appearance of a perfectly continuous diaphragm or partition, having in its centre a circular and patulous opening, measuring not more than one-eighth of an inch in diameter, with a smooth, white, and semi-cartilaginous border, particularly as seen from the ventricle. This formed the only substitute for the free valvular communication that naturally exists here. The remainder of the valve felt soft, and perhaps somewhat thicker than the aortic valve, but the tube adjoining appeared perfectly healthy, as were all the other valves of the organ.

This very rare case presents some points of great interest for consideration, especially as regards its complication with phthisis. Was the tuberculization of the lungs the direct result of abridged function in these organs, owing to the disproportioned supply of blood transmitted by the pulmonary artery, instead of simple atrophy, as might *a priori* be expected? I think it at least highly probable; and were I to speculate further on the morbid causation, without, however, entering upon the vexed question of the exact derivation of tubercular deposit, I would add, that the deficiency of oxygen in the system generally, from the diminished supply of its pabulum in the lungs, was probably more especially felt where its influence is in a normal condition chiefly exercised; and that a deposition of a lower degree of organization than, *cæteris paribus*, would have occurred with an unimpeded circulation, was the result in tissues normally so freely traversed by the vitalizing current.

It is true that the enormous heart, from its mechanical pressure, increased by the enlarged left lobe of the liver pressing it upwards, must be taken into account, as a predisposing cause of disease in these yielding organs; but we constantly find them subjected to a high degree of pressure, as from pleural effusions, without the su-

pervention of phthisis. It is worthy of remark that the inquiry, whether consumption was hereditary in the family, was answered in the negative.

If the above explanation, as regards the morbid association of phthisis in this case be admitted as correct, one direct source of the disease may be regarded as established, and so a link added to that chain of evidence, drawn from actual observation, which is still so desirable, before the proximate cause of this mysterious malady can be successfully unravelled.

In connexion with this arises the question, was the condition of the pulmonary valve the result of disease, or congenital? Both from the history of the case and the evidence afforded by examination of the valve, I consider it more than probable that it was the latter; while the great size of the heart will then be accounted for from the fact of the increased demand upon its energies being coeval with its existence.

Further, I am of opinion that the immediate cause of death was not so much from the defect in the heart, as from the supervention of phthisis, presenting, in addition to the new obstacle to the pulmonary circulation, its peculiar train of fatal concomitants.

The non-occurrence of permanent cyanosis, from the open state of the foramen ovale, notwithstanding the imperfect valvular arrangements at the apertures, and the circulation being sustained through a patulous hole, in place of an accurately fitting valve, are remarkable circumstances, although not unparalleled. It is obvious that in the latter is to be found the explanation of the degree of hypertrophy of the right ventricle, as well as that of the rapid action of the heart during life; velocity of motion, joined with quick succession of impulse, constituting the twofold conditions, by means of which only a certain quantity of fluid can be propelled through a tube of given diameter, a portion of which has been narrowed and remains pervious, instead of possessing its original dimensions, and being provided with a valve. The safety valve function of the tricuspid will explain the passive dilatation of the auricle by permitting regurgitation from the over-loaded ventricle, while the hypertrophy of the left ventricle may, perhaps, be in a great measure attributed to mere continuity of structure with the right.

The torpor exhibited by the patient, together with the enlargement of the liver, which I regard as supplemental to the pulmonary deficiency, is easily explicable by a reference to an inferior scale of beings, where the analogue of such a state of circulation must be sought for. The absence of œdema of the feet, so usual towards the termination of organic diseases of the heart, is worthy of observation. What has been already advanced, that death occurred from phthisis, rather than from the lesion of this organ, may, however, account for it. But, with regard to points of diagnosis, I confess that I cannot add anything of value; most of the symptoms and physical signs observed, such as those already adverted to, belonging equally to other lesions of the heart.

SELECTIONS FROM BRITISH AND FOREIGN PERIODICALS.

Carcinomatous Degeneration of an old Warty Tumour; Amputation and Cure. By PROFESSOR WERNHER of Giessen.

A PEASANT, aged 56, had his hand and fore-arm bruised in a very severe manner between the stones of an oil-mill, about fourteen years before entering the hospital. The back of the hand and the wrist were most severely injured, the fingers and the parts about the elbow joint less so. The skin was almost completely destroyed, and the bones laid bare, on the former parts. A portion of the skin, muscles, and ligaments thus torn away were immediately removed by the knife, and another part sloughed off afterwards. The inflammation subsequently spread over the greater portion of the fore-arm, and even above the elbow-joint, and destroyed considerable portions of the skin and muscles. The wound was only fully healed after the lapse of three years; the fingers, however, still remained somewhat swollen, and they, as well as the elbow-joint, became ankylosed. The tumour remained in this state for eight years. At the end of that time, that is, about three years before his admission, a wart-like tubercle began to form in the cicatrix near the wrist, which gradually increased in size, the skin becoming gradually thinner; finally it broke, and formed a spreading ulcer covered with a thin scab. New tubercles were gradually formed in the neighbourhood of the first, which followed the same course. Thus in three years there was gradually formed a tuberculated warty ulcer covered with scabs, which extended by degrees to the under side of the fore-arm and the back of the hand. The ulcer was not at first painful; gradually, however, the pain became more acute, extending over the entire arm, and during this spring it became perfectly insupportable.

When admitted to the hospital two-thirds of the fore-arm and the back of the hand were covered with a deep irregular ulcer; the remainder with hard, nodose, firmly attached tumours, which extended to the elbow, passing gradually into the normal condition of the skin. A part of the ulcer was covered with hard scab; on another was found a white, friable, cheesy mass, which penetrated deeply into the hollows of the ulcer. Other parts, again, exhibited a reddish, hard, nodal, slightly granular surface. These places bled on the slightest touch, and from time to time much blood escaped from them spontaneously. The fluid secreted by the ulcer was a very fetid, thin ichor. The periosteum of the bones was in many places exposed, especially in the neighbourhood of the wrist, and was converted into a large-celled, brittle mass. In the immediate neighbourhood of the wrist the bones appeared to have entirely disappeared. The hand was considerably cedematous, cold, and immoveable. There was complete ankylosis of the elbow-joint. The

glands of the arm-pit were not swollen. The patient had scarcely any perceptible fever, nor had he lost much flesh. His sleep and digestion were not affected, nor the functions of any of his internal organs.

Diagnosis.—From the foregoing appearances the disease was considered to be a cancerous degeneration of an old warty tumour of the kind first described by Cæsar H. Hawkins.

Treatment.—As the ulceration was continually extending, and as there was no hope that it could be arrested, and as the patient's arm was a burden to him, amputation was decided upon, which was performed by the circular incision above the elbow. The operation and subsequent treatment presented nothing remarkable. The healing of the stump was effected without any ill effects, and the patient was discharged.

Examination of the amputated Limb.—The back of the hand and of the fore-arm from the fingers upwards presented an ulcer nearly eight inches in length, and, at its widest part, nearly six inches in breadth. At the point of its greatest width it extended over the volar surface, so that only a small strip of unulcerated skin remained on the radial side near the wrist. The surface of the ulcer was uneven in the highest degree, papillated; the tubercles of the papillæ of various sizes, from an inch and more to a few lines in diameter, slightly convex, with thin edges passing into one another. Between them were ulcerated cavities, in which the diseased matter extended even to the friable necrotic radius. A part of the papillæ were covered with slightly adhering scabs; the greater portion, however, were uncovered, coloured of various shades of red, some pale reddish, some dark purplish red, as if infiltrated with blood. On the surface and between the walls of these ulcers, was a white, cheesy mass, which could be easily removed with the knife, and pressed out of the cavities. It formed a milky fluid with water. When this cheesy mass was washed off, the entire surface of the ulcer appeared covered with innumerable thread-like, pointed, pyriform papillæ, like those of condylomata. Some of these papillæ, especially on the back of the hand, were from two to four lines in length, and extended over the surface of the ulcer in the cavities to the carious parts of the bone. Their colour varied from a light flesh red to a dark purplish red. The skin along the margin of the ulcer was partly pushed up in a wall-shaped manner from the growth of the tubercles from below; a part of the skin also passed gradually into the original warty tumour, and had its surface towards the elbow thickly covered with dirty, brown-coloured scabs, as in ichthyosis. The papillated masses, from sections made as well on the dorsal as on the palmar sides of the arm, seemed to consist in part of a dull white mass of little consistence, and some of a solid, bluish-white, elastic mass, full of vessels and of blood; the first formed the superficial layer; the second penetrated into the cavities between the fasciæ and the tendons, which surrounded the entire of them, and bound them one with another and with the thickened periosteum. The fat and areolar tissues had completely

disappeared. The muscular fibres were still, however, visible, but extremely thin, pale, and everywhere surrounded by the solid bluish-white tissues just mentioned, and so firmly attached to one another that the individual fibres could be separated only with great difficulty. Here and there were found between the muscles, cavities with a narrow orifice, which opened on the surface of the ulcer, which surface was covered with papillæ, and they were filled with a semi-fluid white mass. The radius was necrotic in the neighbourhood of the wrist; the sequestrum, in part entirely dissolved off, was large-celled and brittle. The vessels and nerves presented no important change. The elbow-joint was firmly ankylosed by the growth of bone. It hence appears that the internal condyle, without having been set, had grown with the shaft of the humerus.

From microscopical examination, the white, cheesy mass which covered the surface of the ulcer and filled up the cavities, consisted entirely of large cells which corresponded perfectly with epidermal cells. They were flattened, of a round, angular, rhomboidal form, larger than fat cells. All had very distinctly a round nucleus. They became somewhat thinner in acetic acid, leaving the nucleus still discernible, but did not dissolve in it, or only very slowly. These cells, as a subsequent examination showed, retained their forms very well in spirits of wine. The papillæ also consisted of cells, those near the surface being somewhat flattened, and in the interior more of a rhomboidal or round form. When a very thin section of a papilla was made, there was observed near its margin a mass of fibrous prominences, which were formed from the half-dissolved, flattened cells. It was very difficult to distinguish the nucleus in the flattened cell, even after the employment of acetic acid. In some places these flattened cells arranged themselves so as to resemble fibrous tissues, which deposited themselves concentrically on one another, and gave rise to cavities which enclosed other round nucleated cells. This cellular structure extended over the central part of the ulcer from four to eight lines below the surface, and passed gradually into a solid, pure, fibrous mass. The bone (radius) was thickened in the neighbourhood of the necrotic part, and covered with a very solid periosteum. Its medullary canal was full of somewhat thickened medulla. At some distance from the ulcer the medullary cavities were again normal. A thin section of the bone exhibited only the usual appearance seen in hardened bones, and no foreign deposition.

There can be no doubt that the disease just described was an example of that species of degeneration of an old warty tumour mentioned by C. Hawkins(a), under the name of warty tumours in cicatrices, and which he considers as cancer in the imperfectly developed skin of a tumour. The origin, progress, and appearance of the disease agree perfectly well with the examples given in the passages referred to. Exactly as in those, the warty tu-

(a) London Medico-Chirurgical Transactions, vol. xix., and Medical Gazette, 1841.

mours, which subsequently changed into a spreading ulcer which bled on the slightest touch, were derived in my cases from the old cicatrices of wounds the result of contusions, lacerations, &c. In Hawkins' cases they were cicatrices from burns, from gunshot wounds, from severe flogging, or, as in the case above described, from contusions with machinery. Sometimes the wounds and the cicatrices were only superficial in the skin, sometimes deeper, penetrating even to the bone. The cicatrix remained many years unchanged, until at length, without any external cause, or without the general health exhibiting anything peculiar, the degeneration commenced in them with the development of dry, wart-like tubercles. Hawkins gives cases in which the cicatrix remained in an unchanged healthy condition for eleven, sixteen, nineteen, twenty, and twenty-seven years, before the disease commenced. In the above-mentioned case also, eight years passed during which nothing either in the condition of the tumour and the parts surrounding it, or in the general condition of the patient, prognosticated so considerable an amount of disease. Its cause is, therefore, to be sought for in the peculiarities of the tumour tissues, which are certainly at present unknown to us; probably also in part to the influence of advanced age, under which so many new formations, at first healthy, degenerate. This cannot, however, be considered as a general affecting cause; for although the greater number of the cases given by Hawkins refer to persons considerably advanced in years, there were some who had only reached their twentieth and thirtieth year. Like Hawkins' cases mine was also at first unattended with pain; and it only became painful some time after the ulcer had formed; and, as was already remarked, the pain then gradually increased to such a degree that the patient in consequence earnestly demanded the amputation of the limb.

C. Hawkins, in his first paper, refers these warty tumours to the class of non-malignant ones, notwithstanding their tendency to spread, because the general health remained for a considerable time unaffected, and was only attacked at a later period by pain, want of sleep, and loss of fluids; because the neighbouring glands were not converted into secondary cancerous tumours; because no secondary tubercles formed in the intestines; and, finally, because experience had shown him that the disease did not re-appear after complete extirpation. In his second memoir, Hawkins so far restricts this view, that, although he considers most warty tumours non-malignant, yet adds that they sometimes assume a true malignant type, in which case the neighbouring glands are affected; the rule being, however, that they are less malignant than the greater number of skin cancers. The warty tumours in cicatrices belong evidently, as is also shown by accurate anatomical and microscopical examination, to that class of lesions which has been latterly called epidermal cancer, and which has been accurately studied by Rokitansky, Lebert(*a*), Bruch, and others. They belong, therefore,

(*a*) *Physiological Pathology*, vol. ii.

to the series of cauliflower-like, condylomatous growths, such as those which frequently occur at the junction of the external skin with the mucous membrane, and which are usually called cancers of the skin and mucous membrane. Some pathologists refer these tumours to the non-malignant (Albers, Lebert), because they have not the peculiar elements of cancer, while others refer them to the malignant or true cancer. Practitioners refer them to cancer, admitting, however, a more favourable prognosis than in the case of hard, glandular cancers and medullary sarcoma. It is evident that here also, as in most pathological new formations, the precise demarcation between non-malignant and malignant cannot be accurately drawn. The tumours which, during a certain period of their existence, exhibit no tendency to induce secondary symptoms in other organs, and which may be eradicated with permanent success during this period, may lose these favourable conditions at a later period and under unfavourable circumstances. Many epidermal cancers, as, for instance, of the penis, do not re-appear after a complete extirpation; but there are others which do not differ from them in any apparent property, but which nevertheless induce secondary glandular swellings, or retro-peritoneal tumours, which cannot be distinguished from secondary soft cancers, and which cause the death of the patient. We may, therefore, assume with safety that epidermal cancer of cicatrices will behave analogously to the closely related epidermal cancer on parts of the skin not cicatrized, and that, therefore, a favourable prognosis may be made in most cases; but still that, notwithstanding complete extirpation, it may again appear. In the above-mentioned case we may expect a permanently favourable result for the patient, because the absence of swelling in the glands, fever, or disease of the intestines, leads to the supposition of the disease not being wider spread.

The anatomical examination has shown the presence of a double layer of new formation: the superficial consists of cells, the under one of fibres. Both cannot belong to the same lesion; the latter being evidently the remains of the cicatrix extending to the bone, which had formed after the original contusion; the cells, on the other hand, belong to the epidermal cancer.

Rayer (*Maladies de la Peau*) considers the cauliflower growth of the warty cancer of cicatrices as the result of hypertrophy of the papillary bodies of the skin, from the analogy of similar epidermal cancers of the uncicatrized skin, as, for instance, in that of the penis and under lip, and which some(*a*) have likewise been accustomed to consider as hypertrophical growth of the papillary bodies. To this supposition it can be objected, that in such a deeply-seated cicatrix the papillary bodies should have been destroyed; that these papillæ appear not alone on the surface, but in all sinuosities of the tumour, even to the bone; and finally, in its composition, the elementary forms, which characterize the normal structure of the papillæ of the skin, are absent. If these papillary excrescences must be really

(*a*) Ecker Roser und Wunderlich Archiv. 1844.

considered as the result of hypertrophy of the papillary bodies, the latter must have been gradually regenerated during the length of time that elapsed since the formation of the cicatrix. Bruch has also remarked, that the normal cutis and epidermis sometimes extended themselves over the ulcer, as an epidermal formation, or at least that a considerable portion of it is so covered. He, therefore, advocates for these diseased growths a certain individuality and independence of the papillary bodies of the cutis. The above-mentioned case favours this view, because the papillary bodies must in any case have been destroyed by the deep-seated disorganization and cicatrization. It proves further that these formations are not confined to the lips, as Ecker supposed.—*Oppenheim's Zeitschrift für die gesammte Medicin*, vol. xli. part 3, p. 324.

[We have introduced Professor Wernher's account of this case here with the view of rendering the history of the disease, on which a paper by Professor Smith appeared in our last Number, as complete as possible. The observations now published are especially valuable from containing an account of a complete microscopical examination of the morbid growth, thereby proving beyond doubt its malignant character. The following letter, commenting on Professor Smith's essay, has been received from Mr. Cæsar Hawkins:

“ *Grosvenor-street, London.*

“ DEAR SIR,—The last Number of the Dublin Quarterly Journal contains some observations by Dr. Smith upon the ‘Warty Ulcer of Marjolin,’ and also upon a paper of my own on the ‘Warty Tumours of Cicatrices,’ the latter having been published in the *Medico-Chirurgical Transactions*, in 1833, without any knowledge on my part of the remarks written by Marjolin, in 1828, till Dr. Smith did me the favour to send me his own paper a few days ago. My oversight is, however, rendered somewhat excusable by Dr. Smith having in a similar manner overlooked a supplementary account of this disease afforded by a clinical lecture given by me at St. George's Hospital in 1841, and published in the *London Medical Gazette*, vol. xxviii. p. 872; and I am happy to find that the result of my subsequent experience therein detailed agrees so completely *by anticipation* with Dr. Smith's observations, that if he had happened to meet with it he would have found it unnecessary to publish his recent paper.

“ I beg to refer to this lecture for my detailed account of the disease, but venture also, in consequence of Dr. Smith's paper, to make the following observations.

“ In my original paper, alone referred to by Dr. Smith, I said that this form of warty ulcer appeared to be a purely local malignant disease; but in the lecture I remarked that ‘subsequent experience in a great many cases has confirmed me in most of what I then stated, but has shown me also that the growth of this kind of cancer in cicatrices is more malignant in its influence than I was at that time inclined to believe, and that it bears much resemblance to ordinary cancer of the skin, of which it is evidently a variety, though still it is less virulent than any other variety of cancer which I have

seen, its mildness depending, probably, on its being produced at an earlier period, in the imperfect structure of an ulcer or cicatrix, than it would be in healthy skin, with a corresponding constitutional tendency to the development of cancer on the application of the necessary excitant; and being therefore, also, less virulent in its contaminating properties on the parts around, or on the glands and system at large.'

"It will be observed from the latter part of this quotation that I do not agree with Dr. Smith in thinking that the 'warty ulcer of Marjolin' and the 'warty tumours of cicatrices of Hawkins are *precisely* the same;' they are both cancerous, but modified to a certain extent by difference of texture. I have described in this lecture the extension of the cancerous deposit into the cancellous structure of bones in cases which I had amputated, which I had not witnessed when my first paper was written, and have said that, in this texture as well as in the natural skin, 'it is not like a medullary or hematoid variety of malignant structure, but is much more like the scirrhus form of carcinoma, using this term in its generic sense.'

"I have also pointed out, as Dr. Smith has done, the occasional but very rare occurrence of glandular contamination, the instance related in the lecture being one of the very cases published in my first paper. A man, whose tibia had been injured twenty-seven years before the appearance of the cancerous ulcer, was operated on by Sir Benjamin Brodie in 1828, the ulcer and a portion of the tibia being excised; nine years afterwards the disease returned in the same part; and in 1838, having, at his request, tried escharotics ineffectually, I amputated his leg; and, the patient dying of phlebitis, I found several glands in the groin evidently enlarged to a small extent from deposit of cancerous matter.

"Rayer, alluding to my paper in the *Medico-Chirurgical Transactions*, in his excellent work on cutaneous diseases, speaks of this affection as simple hypertrophy of the papillæ of the skin, not being aware of the cancerous nature of the wart, shown by this contamination of the glands; for, as Dr. Smith has observed, the microscope does not demonstrate the malignant properties of this morbid growth.

"With regard to the contamination of the general system, I perceive that Dr. Smith's experience corresponds with what I have stated in this lecture. Ulceration of contaminated glands has been observed, indeed, by him, though not by myself; but by neither of us has any morbid growth been seen in other parts of the body.

"I continue to hold the opinion expressed in the lecture:—'If cancer of cicatrices is so mild in its effects as to be nearly always local; if the glands are only affected in some rare cases, and the system still more rarely becomes contaminated, although the disease has extended deeply and largely even into the cancelli of the bones, a cure may reasonably be anticipated in almost every case. But then, again, as the disease is not merely an ulcer of unhealthy character, but is essentially a morbid deposit, capable of spreading into the adjacent parts, nothing short of the entire removal or destruction of every portion of the new growth can effect this cure.'

"As regards the observations of Professor Wernher, I have only to remark on that part where he states that 'I so far *restrict* my first view as that they sometimes assume a true malignant type, most warty tumours being non-malignant;' but in reality I wish to be understood as thinking *all* these warty tumours to be *malignant*, but that very few affect the glands; and therefore I have removed a great many such locally cancerous ulcers in every part of the body, by excision and amputation, with permanent success.

"I feel assured, in conclusion, that Dr. Smith will be glad to find that my observations, published nine years ago, correspond so completely in every part with those he has himself published in the last Number of this Journal.

"I am, dear Sir, faithfully your's,

"CÆSAR H. HAWKINS.

"*To the Editor of the Dublin Quarterly Journal of Medical Science.*"]

On a new Method of opening Abscesses, without leaving visible Cicatrices.
By M. LERICHE, Physician to the Lyons Dispensary(a).

THE inconveniences daily met with in opening abscesses by incision, or by the application of caustics, have induced me to seek a less objectionable method of effecting this object. My principal aim has been to avoid the permanent marks left by the means hitherto employed, a point of much importance when the abscess occupies the neck or bosom of the female. I shall be much gratified if I can prove to the profession, what I am myself convinced of, that if my results have not been crowned with complete success, my patients have at least been often spared the dread which always attends the use of cutting instruments.

Although the method which I propose is apparently sufficiently simple, I have not arrived at it without repeated trials, both of the use of different materials and of the mode of operating. I shall, however, give in a few words the result of my researches.

My first idea was to employ wires of iron, silver, or lead; the results were tolerably satisfactory, but their use was liable to three objections:

1st. The difficulty of procuring them everywhere.

2nd. The necessity of having a special instrument for their introduction, and the rather acute pain which the operation occasioned.

3rd, and lastly, the contact of a hard substance, irritating the inflamed and already painful tissues.

I also tried threads of hemp, linen, and cotton; all were liable to a serious objection, which induced me to discard them altogether; they became swollen by the moisture in which they were constantly immersed, and thus opposed the exit of the pus. I remarked also that their employment gave rise to a rather acute inflammation around the openings. Might not this be attributed

to the facility with which these substances become altered in their nature? It also occurred when the threads were previously waxed.

Silk thread is the material on which I have decided, from its having the following advantages over the others. 1st. It is to be had everywhere. 2ndly. It is not liable to become altered during the time it is required to remain in the abscess. 3rdly. It does not absorb the moisture. 4thly, and lastly, it does not irritate the painful parts with which it is in contact. The silk thread which I use is known in the shops under the name of twist (cordonnet).

After having shaved off any hair on the tumour, the surgeon takes a curved ligature needle, passes through its eye one end of the silk twist, then introduces the needle into the tumour, about six or eight lines from the most depending part, where it must be brought out, draws the thread into the passage formed by the needle, and retains it in this position by uniting the two ends in a knot; the entire is now covered with an emollient poultice, which, in this case, acts mechanically. The patient should remain as little as possible in bed, in order to favour the escape of the pus along the thread, an effect which takes place with difficulty in the recumbent position, when the abscess is situated on a part of the trunk or limbs. The poultices have also, in this case, the advantage of diminishing the inflammation which is excited, and which the practitioner must watch. The twist is to be left undisturbed for four, six, or eight days, according to circumstances; most frequently four days have sufficed. Subsequently, when thought advisable, the twist is removed, and the part is dressed with dry compresses, or, when necessary, with compresses soaked in aromatic wine. In not one of thirty-three buboes which had arrived at the stage of suppuration, and which had been treated in the manner just described, had I been obliged to abandon this plan for any other. In cases of simple buboes, that is, those in which the pus did not seem to possess specific characters, the cure has been effected in from fifteen to twenty days; in the opposite cases, when the orifices of the little openings ulcerated, it has occupied from forty to fifty days; and in neither case did the patient retain any trace of syphilitic infection.

When the tumour has been tardy in reaching the suppurative stage, the pus is sometimes contained in cellular pouches, in which case it may happen that at the time when one thread seems to have effected the cure of an abscess, another forms; under these circumstances a second thread must be introduced.

In other cases, the thread has brought on severe inflammation and caused intense pain. When this occurs it must be removed, and lightly astringent unctuous applications, such as Gowlard's cerate, substituted for the poultices; to these should be added the employment of general measures, baths, regimen, &c. &c.

But the selection of the means most suitable to combat the symptoms which may have arisen must, in such cases, be left to the judgment of the practitioner.—*Revue Medico-Chirurgicale de Paris*, May, 1850.

A RETROSPECT

OF THE PROGRESS OF MICROSCOPIC INVESTIGATION, AND OF THE
MORE IMPORTANT RECENT CONTRIBUTIONS TO NORMAL AND
PATHOLOGICAL HISTOLOGY.

BY ROBERT D. LYONS, M. B., T. C. D., L. R. C. S. I.

EX-CLINICAL ASSISTANT TO THE MEATH HOSPITAL, ONE OF THE SURGEONS TO THE ANGLESEY DISPENSARY, LECTURER AND DEMONSTRATOR OF ANATOMY IN THE ORIGINAL SCHOOL OF MEDICINE, AND HONORARY PROFESSOR OF ANATOMY TO THE ROYAL DUBLIN SOCIETY.

Of the several methods of investigation by which, during this, the first half of the nineteenth century, the science of medicine has been advanced, and so many important additions have been made to our knowledge as well of normal structure and function, as of the several lesions which are produced in both by disease, not one is entitled to more serious attention at the hands of the physiologist, the pathologist, and the practical physician, than that which reveals to us, by the aid of the microscope, the ultimate configuration and arrangement of the particles of the most complex tissue, and resolves into elements the most dissimilar what to the naked eye appears a homogeneous fluid.

While we acknowledge the deep debt of obligation which our science owes to the researches of the chemist, and fully appreciate the value of his labours, we cannot but think that the extensive and vigorous prosecution of microscopic investigation is destined to confer equally signal benefits on medicine. A retrospective glance at what has been already achieved in this department would appear sufficient to convince even the most sceptical; but it is to be regretted that an irrational conservatism, and opposition to what is new, with a profound veneration for all that the past has transmitted to us, are too often active and watchful to throw a barrier of hostile prejudice in the way of those who are bold enough to break new ground. We find that, even on the Continent, very recent writers have thought it necessary to enter at some length into the consideration of the claims which the microscope has on our attention, though neither amongst our French nor German neighbours can its application to scientific medical investigation be considered as new(*a*).

And yet, if we are to believe in a gradual progress towards the perfection of our art, the new must be ever looked for, and its advent should be hailed with gladness; not, however, that it may supersede

(*a*) *Traité du Microscope, &c.*, par le Dr. Ch. Robin. 8vo. Paris, 1849, pp. 79, *et seq.* The following passage is deserving of attention:—

“ Il n’y a, comme on le voit, dans tout ce qui précède, rien de plus que ce que nous étudions dans les autres corps, ce sont les mêmes caractères, les mêmes propriétés; il n’y a de nouveau que la manière de les observer, qui n’est elle même qu’une modification de nos moyens ordinaires d’observation appropriées à leur petit volume.”—p. 78.

the old, as proclaimed by many of its too zealous advocates with an exaggerating enthusiasm, perhaps never wholly separable from the introduction of a new dogma; but that, with new aids superadded to the means we are already in possession of, we may be the better able to undertake the investigation and solution of difficulties that have hitherto baffled our best energies. And who is there so confident in the powers of his art, that will venture to assert that it needs no amelioration, that it has reached its point of culmination? If there be such, let him reflect on the many occasions that the most scientific principles of diagnosis have failed to detect an existing lesion, that the most judiciously directed treatment has been unsuccessful; let him but look on the long category of nervous diseases, and sum up the amount of his knowledge of their causation and their pathology, or the value of his skill in their treatment.

Though our preface be apologetic, it can hardly be deemed superfluous, especially in the pages of an Irish periodical, issued from the Irish school where every department of medicine is represented, and cultivated with success, save one, and that one, as we firmly believe, destined to exercise a powerful influence on our views of the most abstract as well as the most practical questions. We believe that we are justified in saying that no original communication of any importance has been made to histology, or any collateral branch of microscopic investigation, by an observer from the Irish school; though, as we are fully aware, many of our physicians and surgeons have occupied themselves in verifying the observations of others, and in no few instances have acquired practical skill in the employment of this instrument, and made useful applications of the results thus obtained in the practice of their profession(a). It may, however, be anticipated, that before long the attention of the Irish school will be fully awakened to the importance of the subject, and that many will be found amongst us ready and willing to engage in this interesting department of medical investigation. Our object in the present retrospect has been as much to bring the subject prominently forwards, as to give a succinct though brief account of some of the more remarkable contributions to histology, which have been recently made in the English and Continental schools. The limited space which can be afforded to communications like the present in a journal so fully occupied as this with subjects of a more directly practical nature, prevents us from giving as complete a resumé of the state of microscopical science as we could wish; it is to be hoped, however, that the several

(a) It is well known to most of our readers that the late Dr. John Houston, of this city, occupied himself very assiduously at microscopic investigation. Drs. Carte, Aldridge, Hill, Moore, Steele, Fleming, &c. &c, possess good instruments and are excellent observers. The last-named gentleman made an interesting communication, on the subject of urinary deposits, to the Surgical Society, at its last meeting, and has on many occasions favoured us with opportunities of examining the urine in several abnormal conditions.

contributions to histology that we are about to bring under consideration will be found both interesting and important.

The systematic treatise of Quekett, which was brought under review in a former number of this Journal, enters so fully into the consideration of the mechanical arrangements of the microscope, that we feel it unnecessary to do more at present than refer to its pages such of our readers as may be anxious to learn any particulars of manipulation. A work of somewhat similar scope has been published^(a) by M. Chas. Robin, author of the treatise "*Des Végétaux qui croissent sur l'Homme et les Animaux*."

Though it is no part of our present intention to describe either the microscope itself or any of its accessory apparatus, we shall borrow from the treatise of the latter author some practical hints which may be of value to those who are actually engaged in making investigations. The experience of M. Robin is directly opposed to the opinion maintained by some, that the prosecution of microscopic investigation is injurious to the organs of vision, and he does not hesitate to say, "*Depuis Leuwenhoëck, qui conserva d'excellents yeux jusque dans une extrême vieillesse, tous ceux qui se sont beaucoup servis du microscope s'accordent sans exception à reconnaître que jamais ils n'ont ressenti le moindre trouble visuel*." If we but reflect, as this author remarks further on, that the light of the microscope is, for the low powers, scarcely greater than that of the sky or a lamp, by reason of the small degree of concavity of the reflecting mirror, and that, as we raise the power of the object-glass, the amount and intensity of the light diminish proportionably, we see no reason why the habitual use of the microscope should tend to injure the visual apparatus. At all events, there is no ground for supposing that the eyes would be more liable to injury from this use of them, than from constant reading or writing, which are equally fatiguing occupations.

Amongst the embarrassments which the inexperienced microscopic observer meets with (they have occurred over and over again to the writer), may be enumerated his mistaking for constituent parts of the object he is investigating, the several flaws, scratches, and innumerable imperfections of the ordinary glass slides, as also the presence of dust and extraneous matter. Occasionally, when the eye is brought very near the eye-glass during a protracted and careful examination, the movement of the lids throws the eye-lashes in front of the pupil, and they assume the appearance of large filaments crossing the field. But a source of error much more likely to escape detection will be found in the so-called *globules and filaments of the eye*, which do not depend on a too strong impression of the retina by the rays of light, as supposed by some, but will be found to exist in both eyes of every individual who looks through the microscope, being subject to certain varieties in dif-

(a) *Du Microscope et des Injections*, par le Dr. Ch. Robin. 8vo. Chez J. B. Baillière, à Paris, 1849.

ferent persons. We are indebted to M. Robin(a) for a very satisfactory account of this phenomenon, of which we purpose freely to avail ourselves. When we examine the field of the microscope, without placing an object in focus, a mass of small, perfectly round globules, all nearly equal in size, may be observed. They cover all parts of the field, except about a sixth externally, and a space somewhat smaller within. Two or three tortuous very pale filaments are seen a little external to the centre of the mass of globules, a few of the latter adhering to them. The mass of globules is limited without by a flattened line or filament, somewhat brilliant in the centre, appearing of the size of a demi-millimetre, and either straight or slightly curved. Within it is limited by a filament more brilliant than the preceding, and remarkably flexuous, and folded on itself. *All the globules and filaments move together.* There appear to be two planes of globules, the one nearer to the eye with sharper outline; the other deeper, paler, more distant, and with their borders more undefined. These two planes sometimes move in opposite directions, but only through a small space, and quickly resume their places. They are in constant motion, and may be ascertained to obey the movements of the head of the observer, remaining stationary when the latter is fixed for an instant with both hands. The filament which limits the mass of globules externally can be brought to the centre of the field, and it may be then seen that there is a certain number of globules placed outside it. The internal tortuous filament can also be removed, and then external to it will be seen one or two other filaments, equally tortuous and brilliant, directed obliquely towards it. The globules are perfectly round, close to each other, and appear about a demi-millimetre in diameter. They present in the centre a brilliant point, surrounded by a dark, well-defined circle, which is itself surrounded by a second and last external concentric ring, as brilliant as the central point. Those of the deeper plane differ only in being less defined, some of them are in contact with, and impinge on one another, so that their dark borders touch. Besides these globules, some persons see others, larger and more transparent, which do not always occupy the same place in the field of vision. The external straight filament is brilliant in the centre, the borders being more obscure and less defined; it appears about one or one and a half millimetres in size, no globules adhere to it, and it is impossible to say whether it is hollow or full. The internal filament differs from the preceding only by its flexuosity, which causes it to occupy more space in breadth but less in length, and makes it more evident when brought to the centre of the field. The filaments placed amongst the globules are much more narrow than the preceding, they are two or three in number, tortuous, and about the length of a quarter of the field. They are not always so readily perceived as

(a) This writer informs us that M. Donné, in his *Cours de Microscopie*, Paris, 1844, in 8vo., has given a very elaborate description of these globules and fibres. See also *Atlas de Cours de Microscopie*, Paris, 1845, in fol. pl. xx. fig. 83.

the larger ones, their borders being less marked, and less brilliant, at the same time that the globules encircle and appear to adhere to them. These globules are ordinarily disposed in pairs, and in contact one with another, each pair, however, being separated from the next by a certain interval.

It is unquestionably of the highest importance that we should be able to distinguish these little bodies from any part of the object we are examining; and, in general, no difficulty whatever will be experienced in doing so. When we consider that they follow the motions of the head, and are not affected by changing the positions of the glass slides, or by any movements communicated to the stage, we see at once that they must be referred to the eye of the observer. Hence the necessity on the part of the latter of making himself thoroughly acquainted with their figure, position, and the peculiar modification which they may possibly be subject to in his own person. They have been, and may be, to many a source of painful apprehension and uneasiness, giving rise to the opinion that the organs of vision were threatened with disease. It cannot, therefore, be too generally made known, that the phenomenon is one experienced by all who make examinations with the microscope; that the conditions which produce it are universal; and that there is no reason for fearing that cataract, or amaurosis, will be the reward of patient and protracted microscopic investigation. As to the cause of these *globules and filaments of the eye* being seen under the microscope, much difference of opinion still exists. M. Robin appears to agree with M. Donné in thinking, that it is in the liquor Morgagni we must look for their real seat; it would appear to us, however, more probable that they are due, as remarked by Wallace, to the filaments and globules which the investigations of Pacini, Treviranus, Hanover, and others, have proved to exist in the retina. We consider it quite possible that the posterior wall of the eye may reflect light, and thus give an image of itself, in the same manner that objects are seen in the bottom of a river through the water; that in fact the eye may perform the triple office of twice transmitting light, bringing it to a focus, and seeing it.

The work of Mr. Quequett contains a very excellent description of several varieties of micrometers, and gives judicious rules for the estimation, by their assistance, of the value of the magnifying powers of the different object-glasses.

The two processes hitherto most frequently in use on the Continent are, according to M. Robin, *the method of the camera lucida and of double vision*; which consists in throwing, by means of a camera lucida, the magnified image of an objective micrometer (whose subdivisions are known) on a rule divided into millimetres, placed at the distance of distinct vision. By noting how many millimetres on the latter are covered by each hundredth of a millimetre of the micrometer, the magnifying power is thus found directly. The second process consists in looking with one eye at the subdivisions of an objective micrometer placed under the microscope, while with the

other we regard the divisions of a rule or the points of a compass. The images of the two objects, painted separately on each eye, are thus superposed one on the other in the nervous centres; and with a little habit, it may be easily ascertained how many of the subdivisions of the rule are covered by a single division of the magnified micrometer.

Several sources of inaccuracy are stated by M. Robin to exist in both these methods, these he has detailed at length in his work (a); and he has accordingly proposed the following *method by the ocular micrometer*, which appears to answer all requirements, both as to simplicity and accuracy. It consists in employing an ocular micrometer, the superior glass of which magnifies exactly ten times. The micrometer placed in the focus of the superior glass of this ocular is one centimetre or half a centimetre, of which each millimetre is divided into ten parts. These tenths of a millimetre, being magnified ten times, equal each a millimetre. It is consequently a decimetre, or a demi-decimetre, each of whose subdivisions is equal to a millimetre, which is placed permanently in the ocular. Consequently, if an objective micrometer be placed under the microscope, and that, in examining with the ocular, each hundredth of a millimetre of the first is magnified so as to cover three divisions of the second, we learn that the microscope magnifies 300 times.

The following method, which is but a slight modification of that proposed by M. Robin, has been adopted by the writer. It presents the advantage of great simplicity, and requires the use of only one micrometer, and with a little practice will enable the young microscopist to make himself acquainted with the powers of the several object-glasses and eye-pieces he may chance to possess; a knowledge which it is the more necessary he should be able to procure for himself, as almost all the instruments in use and on sale in this city are unprovided with any scale or registered description of the powers of the several glasses. It will be necessary in all instances to possess an objective or stage micrometer, whose subdivisions are known; with this, an ordinary eye-piece, and one of the circular glass slips used for covering objects, we are in possession of abundant means for estimating the powers of the various object-glasses; and if a little care be used in the manipulation, a very considerable degree of accuracy may be obtained. The circular glass slip may be extemporaneously converted into an ocular micrometer, by marking off on it, from a rule, with a diamond, or a finely pointed pen, any of the smaller subdivisions of an inch. Thus marked, it may be passed into the eye-piece by unscrewing the ocular, and be allowed to rest on the stop or diaphragm; the ocular being now replaced, we proceed to ascertain its power, and the consequently increased dimensions of the divisions of the glass slip, which may be done in the ordinary way, by looking at them with one eye, while the other is thrown on the subdivisions of a rule. These interspaces, being large, are

(a) See his *Treatise on the Microscope*, pp. 134, 135, *et seq.*

easily compared, and being superposed one on the other, as above described, the magnifying power of the ocular is thus obtained. If the objective micrometer be now brought into focus, we can easily see how many of its subdivisions correspond to one or more of the spaces which we have marked off, and the power of the object-glass is thus readily found.

For low power, and the comparison of tolerably large divisions of the micrometer and the rule, no difficulty will be experienced in ascertaining the magnifying number of a particular object or eye-glass, by the *method of superposition*, or that of looking with one eye through the microscope, and with the other at a rule, and at most only a few trials will be necessary in order to attain very considerable accuracy; but it will be found widely different when we come to deal with high powers and small divisions, and hence the value of M. Robin's method, and the modification of it just proposed, in which, though the preliminary step is made by ascertaining the power of the ocular by the method of double vision, another and certainly a more accurate process is employed for estimating the power of the object-glasses, which necessitates the comparison of minute subdivisions, in which, of course, any error would be less likely of detection. As to any source of error which might possibly arise from placing a slip of glass between the ocular and field-glass of the eye-piece, it must be so very trifling as not to deserve any notice. By selecting a glass whose surfaces are neither convex nor concave, but as nearly as possible flat, the amount of deviation will be altogether inconsiderable.

By a reference to the tables given in the works of Robin and Quekett, it will be seen that the number 800 represents the highest magnifying power which has been obtained for the object-glass by Nachet, a distinguished optician of Paris. In this, no account is made of the influence of the eye-glass, which would, of course, add considerably to the power. While with the $\frac{1}{4}$ th inch object-glass, and the eye-glass A, manufactured by Ross, of London, a magnifying power of 600 is obtained; the same object-glass, giving with this maker's eye-glasses B and C, respectively, 870 and 1400, as the magnifying powers.

With powers far lower than these, however, many of the most useful and interesting investigations can be made. "The magnifying powers from 100 to 300," says M. Robin, "serve for studying the bones, the teeth, the hairs, the hair-bulbs, and the glandular culs-de-sac, but only in what concerns their grouping in each *acinus*: the study of their epithelium demands higher object-glasses." We think, however, that this author has elsewhere over-estimated the value of the very high powers, and also the facility of recognising by their aid, and distinguishing the several varieties of abnormal formation:—"La prétendue impossibilité de distinguer les globules de pus, des globules blanc du sang, des corpuscules du tubercule et une foule d'autres erreurs, tiennent à la même cause (les faibles grossissements)."—p. 172.

We shall next proceed to the consideration of some of the more recent contributions to NORMAL HISTOLOGY.

Development of the Anatomical Elements in General.—The following table has been constructed by M. Robin, to show the several relations existing between cells, which he considers the most simple, and least *animal* elements.

1. In the Ovum. Elements of transitory tissues or *embryonal cells*, formed by *segmentation* of the vitellus, whence results the birth of the embryo, and which terminate

A. In Vegetables. All by direct metamorphosis into elements of definite tissues, persisting thus in the state of cellule during the entire existence of the being.

B. Amongst Animals. *a.* Those of the superficial layer of the serous lamina of the blastoderma solely become metamorphosed, after the manner of vegetable cells, into elements of products (cells of the amnios, epithelial cells, &c).

b. All other embryonal cells terminate by dissolution.

2. In the Tissues of the fully formed Being. Elements of tissues which persist during the entire life of the individual, whence results its growth. They grow:

A. In Vegetables. In the state of cellules, being formed by germination, and undergoing metamorphosis as in the embryo. They terminate at the death of the being, or by reabsorption during life.

B. In Animals. *a.* The elements of *products* (epithelium, &c.) grow in the state of cells, undergoing a direct metamorphosis into *horn, nails*, and other products, in a manner similar to all corresponding embryonal animal cells and all vegetable cells. They terminate by desiccation, and fall off only at death.

b. The elements of fundamental *tissues* (muscles, skin, &c.), or the tissues properly so called, grow without passing through the state of cell, and without undergoing metamorphosis; they grow in the blastema resulting from the dissolution of embryonal cells, or in that which transudes from the vessels. They terminate either in death or resorption.

The formation of a nucleus on a pre-existing nucleolus is, according to Günsburg, a very rare occurrence. The nucleoli appear for the first time in the nuclei, after the action of acetic acid; and their independent origin first takes place with the formation of the cell from the nucleus. The well-known granular appearance of animal cells is first observed, as Kölliker remarks, on the addition of water; in their recent condition, the most of them contain, instead of a nucleolus, only a clear fluid. Kramer considers the nucleus of the blood-corpuscles of the frog to originate in the finely granular residue of the cell-contents, the yolk-granules, which collect together in a heap in the middle of the cell, and thus melt down into the clear-edged nucleus. From this author's history of the development of the frog, and the embryo, Henlé deduces the following interesting observations on cell-genesis in general. The

vesicles scattered through the yolk of the egg, which, as Vogt has discovered in alytes, originate in the germinal vesicle, form themselves from its granular contents. The granules of the latter, of the size of the human blood-corpuscle, unite together in masses of three to four, at first, to which afterwards more are added, and, being thus of greater circumference, become surrounded with a clear membrane. The author calls the bodies thus formed, cells, and the granular heaps enclosed in them nuclei. The latter disappear in part after the formation of the membrane. At the period of segmentation, when the yolk has assumed the so-called black-berry form, from two to four of these vesicles are enclosed in the spherical bodies of which the yolk consists. He considers these bodies as supplied with an outer membrane, on account of their elasticity, by which, after alteration of their form from pressure, their former figure returns again. This membrane he believes to have demonstrated by treating the spherical bodies with water; but his description of them agrees very much with the well-known characters of albuminous globules, which may be observed scattered through water in the examination of many animal tissues.

Perty establishes a subdivision of ciliæ into automatic and voluntary, the one kind, proper to the higher animals, endowed with a constant movement, which always takes place in the same direction, the other constituting the locomotive apparatus of lower animals, moved by a physical impulse. Amongst these vibratile threads, which are known as the long, undulating locomotive organs of the infusoria, and the sporules of the algæ, this author places the tails of the spermatozoa(a).

Adipose Vesicles.—As far as regards the development of adipose vesicles, they are not, in the opinion of M. Robin, formed by metamorphosis of embryonal cells; on the contrary, it is only in the last periods of their development that they assume the form of vesicle, which is thus, in place of their first, their last state of evolution. They are first formed of three or four oil-drops, having each a diameter of about $0^{\text{mm}}\cdot004$, grouped side by side. The volume of each of these groups augments little by little, by the formation of new drops alongside the first; and it is only when the mass attains the volume of an adipose vesicle ($0^{\text{mm}}\cdot940$ or $0^{\text{mm}}\cdot050$), that a membrane is formed around the drops, which little by little unite into a single oily mass. They commence to appear about the fiftieth or sixtieth day, but the length of time occupied in their formation is unknown. Thus the mode of general formation of adipose vesicles is not precisely analogous to that of cells, properly so called. This formation commences long after the disappearance of the embryonal cells, and it does not differ from the mode of formation of the other elements of the constituent tissues(b).

(a) *Leistungen in der Histologie*, Von Henle; Canstatt's Jahresbericht der Medecin, erster band, p. 27, *et seq.* Erlangen, 1849.

(b) *Vide* Compte rendu des Séances de la Société de Biologie pendant le Mois de Decembre, par M. Segond, Secrétaire; Gazette Médicale de Paris, No. 9, Mars 2, 1850, p. 168.

Development of Cartilage.—Professor Meyer, of Zurich, has published a long and interesting memoir on the transformations which cartilage undergoes. This author concludes, from the result of his observations, that cartilage is but a transition, a step which must lead to products more advanced and better defined; that there does not exist a permanent cartilage, and that this substance must be regarded as in progress of development, and destined to pass into an osseous or a fibrous mass, or to disappear by softening. The *cartilage cell*, while young, is small, encloses a nucleus which is distinguished with difficulty, and a grumous fluid. It may be round, angular, or fusiform, and when completely formed, can give birth to other cells. The number of cells which the cartilage contains at its origin does not appear capable of augmentation, except by the development of mother cells. The growth of this substance, therefore, is due to the increase of the intermediate substance (hyaline of authors), at first existing only in small quantity, as well as to the enlargement of the mother cells, which extend themselves in proportion as new ones are formed within them. In the progress of ossification, the inter-cellular substance, after it has remained for a time homogeneous, becomes ossified by the deposit of calcareous salts in large or small grains. The second process, transformation into fibrous tissue, may sometimes precede the first, but can never follow it. The cellule must have attained its full development before it becomes ossified; its thickened envelope then becomes impregnated with calcareous salts, and thus constitutes the wall of an osseous cell. When, on the contrary, ossification commences before the cell envelope has increased in volume, the salts are deposited on its entire surface, or fill all its cavity(a).

New species of Anatomical Elements which are found in the Medullary Canal of Bones.—Under this head M. Robin has laid a communication before the Society of Biology, in which he has pointed out the existence of two histological elements of bone, hitherto undescribed. He says

1st. There exists in all bones, short, flat, or long, besides the adipose cells, the vessels, and the finely granular amorphous matter, a particular kind of cells, which may be called *medullary cells*, because they are proper to the medullary tissue of the bones. They are either spherical or a little polyhedral, have a diameter of $0^{\text{mm}}\cdot 015$, to $0^{\text{mm}}\cdot 018$; they are transparent, with sharp borders; they all enclose a nucleus, which is spherical, regular, transparent, and with a well-defined border, having a diameter of $0^{\text{mm}}\cdot 006$ to $0^{\text{mm}}\cdot 007$. Between the nucleus and the cell wall exist granules and molecules which vary in quantity, but are constant. These cells are more abundant in the young subject than in adults, constituting in the former, with the vessels, almost the entire of the marrow of the bones.

(a) Müller, Archiv. für Anatomie und Physiol., t. iv. 1849; *vide* Archives Générales de Médecine, t. xxiii. p. 64, Mai, 1850.

2nd. In the long bones, as well as in the short, but in smaller quantity in the latter, may be found another species of anatomical element, which it is more important to recognise than the preceding, because it sometimes constitutes, by itself alone, certain bony tumours. Some tumours of bone, considered by pathologists as cancerous, enclose, not cancer cells, but a special element, characterized by large plates or flattened lamellæ, sometimes polygonal, sometimes irregularly spherical, having a diameter of at least $0^{\text{mm}}\cdot050$ to $0^{\text{mm}}\cdot080$. These plates are finely granular, and are remarkable by their nuclei, which are from six to ten in number, contained in the thickness of the plates, and giving them a character at once special and easily recognizable. These nuclei are $0^{\text{mm}}\cdot009$ in length, and $0^{\text{mm}}\cdot005$ in width; they are ovoid, and contain one or two nucleoli, accompanied by little molecular granulations. M. Robin has had occasion to examine many tumours of this kind, which constituted *spina ventosa* of the tibia. M. Lebert and M. Vosse (of Christiana) have also met with specimens.

In the opinion of M. Robin, however, these bodies constitute normal elements of the medullary tissue of bone. They may be found in greatest abundance between the external surface of the marrow and the internal face of the canal. They are much less numerous than the cells first described, or than the adipose vesicles, and are more abundant in the bones of young subjects than in those of adults or old men. Both species of elements exist in the bones of all the domestic mammalia. It is by the local growth, in great abundance, of these lamellæ, that certain tumours, hitherto considered cancerous, are formed(a).

On the Structure of an Epulis of the Inferior Maxillary Bone.—At a subsequent meeting of the Society of Biology, M. Robin presented a tumour of the size of a little nut, which had led to the removal of a part of the inferior maxilla, from the belief that the disease was cancerous, but which in reality presented none of the succus characteristic (?) of this degeneration. On examining a portion of the tissues of the surface of this tumour, M. M. Robin and Dionis found in it the *polynucleated plates* above described as constituting, in the opinion of the former of these observers, normal elements of the marrow of bone. From the result of this examination they diagnosed that the disease took its origin in the osseous tissue of the maxilla, and not in the periosteum as first supposed. A section of the tumour showed in fact that it originated in the bone, and had engaged half its thickness. There was no cancerous element; the morbid tissue was exclusively formed of the following homœomorphous elements:—1st, very numerous polynucleated plates; 2nd, fibro-plastic elements (nuclei and fusiform fibres of Lebert); 3rd, cellular tissue; 4th, capillary vessels and molecular granules. The greater number of the tumours known under the name of epulis, says

(a) Societe de Biologie; *vide* Gazette Médicale, No. 51, p. 992, Dec. 22, 1849.

M. Robin, consist of the polynucleated plates and fibro-plastic elements, and spring from the bone: others originate in the periosteum, and are purely fibrous and fibro-plastic. The one and the other are consequently homœomorphous. In like manner various tumours of the tibia, the femur, &c., growing either from the compact tissue, or from the medullary canal, and which are often taken for examples of cancer(*a*), are homœomorphous, and consist principally of the polynucleated plates.

Structure of the voluntary Muscular Fibre, and of the Heart, in the different Classes of Animals.—An important memoir has been published on this subject by M. Lebert, from which we are induced to make a somewhat lengthened extract, as both the name of the author and the nature of the subject warrant us in regarding it as of the very first interest in transcendental histology. In this department of medical science M. Lebert is already distinguished by his researches on the formation of the heart, which were conducted with the assistance of M. Prevost, the late illustrious physiologist of Geneva, and published in the *Annales des Sciences Naturelles*.

In the opinion of M. Lebert, four different stages may be observed which the voluntary muscular fibre passes through in an ascending scale, before we arrive at the complete texture of the tissue, which, by its contractions, executes the functions of locomotion.

The first stage is that of *motility*, without muscular fibre. In this condition all the envelope of the body of an animal can contract, enlarge, and even execute active movements of progression and natation, without our being able to detect the presence of fibres, granules, striæ, or cylinders, which even the strongest magnifying powers fail to show under the microscope. Here we have movements analogous to those observed under other circumstances, in animal and vegetable bodies; such are the vibratile ciliæ of the epithelium on the surface of the body of many embryos, and the movements of the spermatic threads, which, in the opinion of M. Lebert, *have been so long wrongly regarded as animalcules*. Something analogous is met with in the autonomic movements of the sporules of the algæ.

Thus at the bottom of the animal scale are found the general properties, which, however, are subject to remarkable modifications, but yet this tissue wants a special molecular base. This first stage of muscular development may be termed the *anhystic tissue of spontaneous movement*. It is met with in all the class of infusory animalcules, properly so called, in many polypes, helminthides of the class of cystoides, and of some inferior neumatoides.

The second stage of muscularity is that in which the fibre is found imbedded in the transparent intermediary substance. These fibres, without forming bundles, are, however, disposed so as to constitute muscular planes, sometimes superposed in parallel layers,

(*a*) *Gazette Médicale de Paris*, No. 13, Mars 30, p. 251.

sometimes crossing at right angles, and forming around the different apertures of the body circular layers, which can effect alternately their closure and dilatation. This may be denominated the *fibrous or fibrillar tissue of spontaneous movement*. It is to be found in the polypes, annelidæ, and many mollusca.

The third degree of evolution of muscular movement is that where the fibres are grouped so as to form cylinders, or fasciculi, and where the muscular planes give place to true muscles, more and more different from everything that surrounds them. This, which may be called the *cylindrical muscular tissue*, obtains very generally among the mollusca and the annelidæ.

The fourth degree is the most perfect, and such as we find it in the muscles of voluntary motion from the mollusca to the highest vertebrata. It is to be observed, however, that no very accurate limits exist, and that this, the fourth degree, may be found amongst certain polypes, acalephæ, &c. As, in the nerve, the primitive nervous tube is the last essential element of the apparatus of innervation, so the muscular cylinder is its analogue as regards the functions of voluntary motion. The term *primitive cylinder* is given to all that portion of the muscular tissue which is clearly defined in all its circumference, or which under the microscope shows two longitudinal contours, much more clearly marked and isolated than the longitudinal fibres of the interior cylinders, which are mostly furnished with transverse folds on their surface. These cylinders, long, parallel, and flattened from before backwards, are united and grouped to form muscular fasciculi. In their manner of grouping there is something peculiar which cannot be too well studied. They are united together, to the number of four, five, or upwards, into secondary cylinders, which are often furnished with common transverse folds, in addition to those possessed by the cylinders within. The muscular cylinder is, therefore, composed of a surface with its transverse folds, and an interior, containing the primitive fibres, with their fibrillar and inter-fibrillar molecular granules. The surface, as before remarked, is usually furnished with transverse striæ, to which with justice a sufficiently great importance is attributed. These striæ, however, will be found wanting in the muscular substance of the heart in many of the superior animals, and even in some of the muscles of voluntary motion in very young vertebrata. These striæ are constituted by rounded slightly elevated folds, which pass around the flattened cylinder, without communicating one with another like the curves of a spiral. They are not the accidental results of relaxation or contraction, but are permanent. They may, however, be seen more or less near, distant, or distended, according as the cylinder is relaxed, contracted, or distended. To these variations of distance corresponds their appearance as a single or double line. *They do not at all traverse the entire thickness of the cylinder*, and consequently do not transform it into a pile of disks, as has been supposed by some. The internal surface of the cylinder is united to the intermediary semi-transparent substance,

which binds together the primitive fibres. These latter are very fine, either alternately opaque or transparent throughout; and the granules, thus distributed in their interior, sometimes show still much transparence in their centre when they are examined with high powers. Their juxtaposition in neighbouring fibres may simulate the appearance of the true transverse striæ.

All the constituent parts of the muscular fibre have been subjected to measurement by M. Lebert. The mean size of the primitive fibre varies between $0^{\text{mm}}\cdot001$, and $0^{\text{mm}}\cdot0015$; he has not observed them to exceed $0^{\text{mm}}\cdot002$. The size of the non-striated cylinder may vary between $0^{\text{mm}}\cdot004$, and $0^{\text{mm}}\cdot02$. The primitive cylinder of the striated muscles varies between $0^{\text{mm}}\cdot005$, and $0^{\text{mm}}\cdot1$. The size of the transverse striæ is between $0^{\text{mm}}\cdot001$, (simple linear) and $0^{\text{mm}}\cdot0025$.

The nutrition of the muscular fibre is in general effected by the nutritive transudation from the blood-vessels, the distribution of which in general follows the direction of the cylinders, in the interstices of which the capillaries are often lodged. Innervation of muscles is observed to take place by the distribution of the nervous terminations in the muscular substance. Wagner is of opinion that the fibrillæ of the nerves enter the very substance of the muscular cylinder, an opinion in which M. Lebert does not fully coincide, as he considers that it is certainly not their only mode of termination, he having himself observed numerous primitive nerve-tubes coursing along between the planes of muscular cylinders, and turning on themselves to constitute loops everywhere isolated.

The coloration of muscles depends evidently, according to the same authority, on a particular pigment, since they are met with of a red colour in animals with white blood, and white in animals with red blood(a),

The subject of the contraction of muscular fibre has long occupied the attention of the physiologist; but as it belongs more especially to the department of *physiological physics*, we cannot at present enter into the consideration of the many important contributions which have been lately made to it, particularly by the German school. In Canstatt's *Jahresbericht*, and the more recent numbers of Henle and Pfeufer's *Zeitschrift für Rationelle Medicin*, will be found many interesting papers on this subject.

Structure of the Uterus.—Under this head a long memoir(b) has appeared from the pen of Dr. Franz M. Kilian. His observations have been conducted on a very extensive scale, and for the purpose of following up the development of the organ from its earliest stages, very young animals have been selected. A very close investigation has been made into the structure of its serous covering, which appears to consist of a hyaline or structureless membrane, with nuclei imbedded in it. The nuclear-formation (*die kernbildungen*) appears

(a) *Gazette Médicale*, No. 49, p. 938, Dec. 8, 1849.

(b) *Zeitschrift für Rationelle Medicin*, viii. band., i. & ii. heft, p. 53; ix. band., i. heft, p. 1. Heidelberg, 1849.

to present certain modifications: some of the nuclei are small, round, naked, and without nucleoli (earliest stage); others larger, of a vesicular form, containing one, two, or more nucleoli. A third kind may be observed with granular contents, and either with or without nucleoli. Besides the round or oval nuclei just described, others will be found fusiform, elongated, and, in many instances, presenting fibrous prolongations, some of which bifurcate, and unite with the fibres of neighbouring nuclei, forming a close network. On their interior the walls of the uterus are coated with a thick layer of epithelium, or naked granular nuclei. The substance of the mucous membrane contains a quantity of utricular glands, for the most part rectilinear in direction, and bound together by a fine cellular tissue; a few, however, may be observed of a spiral form. When the serous membrane is removed from a portion of the walls of the uterus, the proper texture of this organ is brought into view; it appears as a soft reddish mass, consisting of nuclei imbedded in a *glassy* gelatinous blastema.

In the lithographic drawings which accompany Dr. Kilian's paper will be found excellent delineations of the above described elements, as well as of many others which want of space alone prevents us from describing in detail. Indeed the whole investigation appears to have been prosecuted by the author with that untiring and energetic spirit of research which is so characteristic of all the observers of the German school, and to which medical science is so deeply indebted, notwithstanding all the imputations that ignorance and unfounded prejudice have heaped on labours which are invariably characterized by profound and erudite research, and philosophic minuteness.

Glands of the Alimentary Canal.—Professor Thompson, in a communication to the *Annals of Anatomy and Physiology*, proposes the following classification of the glands occurring in the alimentary canal, which he thinks may be all placed under the four following orders, admitting of ten subdivisions.

- I. Vesicular; composed of entire vesicles (or small bladders), usually closed.
 1. Aggregated glands of Peyer in the small intestine.
 2. Solitary ditto.
 3. An occasional state of the next mentioned glands.
- II. Follicular; forming small bags or cavities, usually open pits.
 1. Of the large intestine; constant.
 2. Of the stomach; frequent, but not constant.
- III. Tubular; composed of membranous tubes, closed at the remote ends, and usually simple.
 1. Of the small intestine; follicles of Lieberkühn.
 2. Of the large intestine.
 3. Of the stomach.
- IV. Racemose; tubes simple or sacculated (and vesicles), arranged in clusters round a central stalk or duct.
 1. Cardiac-œsophageal.
 2. Duodenal of Brunner.

The author further considers that the columnar epithelium, which everywhere exists on the surface of the mucous membrane, extends for some way into the interior of the follicular, tubular, and racemose glands; but no true lining of this kind, different from their secreted contents, exists in the vesicular glands; these last he supposes to be rather a modification of parent secreting cells, than true glandular cavities.

The secreted product of all these glands, presenting to the naked eye the appearance of a greyish, grumous, semifluid mass, exhibits when viewed under the microscope, a variety of cells mixed with globules, granules, and molecules of various size. In the healthy tubular gastric glands the cells are, during the intervals of digestion, accumulated in considerable quantity in the tubes, so as to cause the membrane of the tubes to bulge out at somewhat irregular intervals, and thus to give them a sacculated appearance. These gastric cells are poured out in large quantity on the surface of the mucous membrane during digestion, and may also be frequently seen to exude anew after death, being united by imbibed water, so as to form a layer of substance indefinitely termed mucus, which has been often noticed covering the inner surface of the stomach. The microscopic examination of this layer sometimes affords a most interesting view of the gastric cells in all stages of development or decadence; smaller cells existing within the larger, to the second and third progeny; and thus very probably furnishing, as Frerichs suggests, the source of that ferment, or analogous matter, which, along with the acid ingredients of the gastric fluid, is essential to the solvent action of stomachal digestion(*a*).

Structure of the Spleen.—A very erudite paper, with many interesting original observations on the structure of this organ, will be found in the *Annals of Anatomy*, from the pen of Dr. Saunders. The author enters largely into the history of all previous research on this subject. We select the following enumeration of the different microscopical elements which the more recent observers consider to constitute this organ.

1st. Granular corpuscles (Gulliver, Henlé, Ecker, Simon, Sharpey). They are about the size of the red blood corpuscles, are sometimes of a reddish colour (Sharpey), and more or less irregular.

2nd. Caudate corpuscles (Sharpey, &c.), or fusiform cells.

3rd. Cells with nuclei more or less granular (Henlé), considered to be rare and accidental.

4th. Yellow-coloured pustules, cells, or corpuscles (Hanfield, Jones), contain blood-globules (Ecker, Kölliker).

It is a general opinion that the spleen consists of nuclei or cy-

(*a*) On the Structure of the Glands of the Alimentary Canal, by Allen Thompson, M. D., &c., Professor of Anatomy in the University of Glasgow; Goodsir's *Annals of Anatomy and Physiology*, No. i. p. 33, *et seq.* We regret being unable to give the entire of this interesting memoir, which is accompanied by very excellent lithographic drawings.

toblasts, which never reach the higher development of the nucleated cell (Simon, Jones, &c.)

5th. A homogeneous membrane around the Malpighian glandulæ is denied by most observers (Henle, Oesterlen, Simon, &c.) It has been stated to exist by Ecker; but as he demonstrated it by the application of potassa, which dissolves animal textures into a homogeneous matter, this observation is uncertain.

6th. Muscular fibres of the involuntary kind, and differing in different animals, have been described by Kölliker in the proper membrane and trabeculæ of the spleen.

From the result of his own observations, Dr. Saunders concludes that the Malpighian body consists of a hollow sphere, formed by, 1st, externally, a fibrous membrane containing blood-vessels, and attached by a vascular pedicle; 2nd, internally, a granular membrane, the internal surface of which is lined by a layer of large nucleated cells, while free nuclei or corpuscles with a homogeneous or granular plasma fill its interior. It is a closed sac containing secreting elements.

The Pulp or Parenchyma of the Spleen is distinguished under the microscope by a peculiar brown colour, even after the blood disks have been completely washed away. We may observe in it corpuscles and granules, with a few granular cells, coloured particles, red or yellow, of a crystalline appearance; peculiar fusiform or spindle-shaped cells, which are placed in a semimembranous plasma(*a*), intersected by a capillary plexus, and crossed by bands of trabeculæ. The corpuscles of the pulp resemble the saccular corpuscles, in being pretty nearly of the same size, in being hollow, nearly circular, translucent, and in containing several granules in their interior. The entire of this paper will be found worth consulting by those who may be interested in the study of this organ.

In the foregoing pages we have noticed but a few of the many important additions which have been made to normal histology since the publication of the systematic works of Mandl, Donné, Vogel, and others. We shall next proceed to consider briefly some of the more recent observations in PATHOLOGICAL HISTOLOGY.

New Products consist entirely, according to Günsburg, of elements which are identical with those of the normally developed tissues, in appearance, form, and mode of development. These elements are cells and fibres. The well-known division into homologous and heterologous tissues is, in the opinion of this observer, not in accordance with pathological experience. In fact, if a close examination of pathological cells or fibres be instituted, there may always be observed in them a tendency to *raise* themselves to normal formations of known form.

All that is produced by disease is under the normal form which appertains to health. It may, therefore, be stated, in accordance

(*a*) On the Structure of the Spleen, by William B. Saunders, M. D., Edinburgh; Goodsir's Annals, No. i. p. 49, *et seq.*

with this doctrine, *that pathological cells are identical in their development with normal cells.*

The material from which pathological cells are developed is the blood serum, and is therefore identical with the medium of general nutrition, and consequently possesses a proper capacity for assuming definite form (*gestaltungsfähigkeit*). The disposition of the cyto-blastema to cell-formation is not a purely chemical act. The difference in form of pathological growths is to be attributed to, 1st, the difference of the blastema; and 2nd, the difference of the *locus* of formation. The difference of blastema influences the configuration of cells by its chemical qualities; experience shows that the highest form of cell stands in relation to the quality of the fibrine of the blood. The formation of cells may take place under different conditions. As arrests of development the following are given as examples by this author.

1st. Arrest of development of cells at the formation of nuclei.

2nd. The imperfect development of the nucleus after the full growth of the cell.

3rd. When the cell remains in its condition of full development.

Excessive growth is observed—

1st. When the cells are accompanied by an immoderate nuclear formation.

2nd. When they pass into fibres.

3rd. When the cells pass into a tissue similar to that of the parent structure.

Of cells arrested in the stage of nuclear formation, Günsburg regards tubercle as an example. The typhic product he considers as an instance of cell-formation with imperfect nuclear development; while the cancer-cell is looked upon as the highest grade of individual cell-formation, though it does not possess the faculty of undergoing a greater development(*a*).

According to Bock, *new formations* are either of an organic or an inorganic nature. The former follow the laws of formation of organic life, and reach sometimes a higher, sometimes a lower degree of evolution, constituting, when they attain the highest grade, a normal tissue; the latter are developed in obedience to the laws of pure chemistry, and the most perfect form they are capable of attaining is that of a crystal. Both kinds of new formation can pass into each other, and can even exist together. The organized new products contain the protein-compounds and fat; they form fibres and cells. This author makes a further division into homœoplastic and heteroplastic. The stroma which is observed in many growths may be either structureless or fibrous, sieve-like or forming a network, and the following varieties will be found in different formations:—1st, a fluid stroma, with granules, nuclei, and cells, which differ essentially from the normal; 2nd, a fluid or semi-fluid stroma,

(*a*) Leistungen in der Pathologischen Anatomie, Von Albers. Canstatt's Jahresbericht, Zweiter Band, p. 37, Erlangen, 1849.

with fibrous cells adhering to each other, or united at their extremities; 3rd, a fibrous stroma with cells; 4th, a fibroid or callous tissue; 5th, a tissue exactly analogous to the true physiological, and either with or without a vascular formation.

The pus corpuscle is regarded by Günsburg as a cell which, by the excessive development of nuclei and its consequent breaking down, is prevented from reaching a higher stage. This view, as remarked by Albers, is altogether new. In this department much yet remains to be done before we shall be in a position to appreciate the value of particular form and size, and the absence or presence of nuclei and nucleoli in cells. It must be evident to the most superficial observer, that a certain relation exists between the complexity of arrangement of the particles of any morbid growth, and its period of development, as also its position in any scale which expresses the comparative organization of different pathological products.

The breaking up of cellular and fibrous tissue into molecular particles, and their passage into their organized and unorganized constituents, is the last act in the process of organic transformation. The nucleus will be observed to pass into granules, pigment, or fat; the fibre gives way in layers, becomes varicose, and covered with adherent molecular fragments. The inorganic particles, in obedience to chemical affinity, group themselves into small adherent masses, or become crystallized(a).

Development of Pathological Cysts.—An extensive memoir on this subject, by Dr. Carl Bruch, will be found in Henle and Pfeufer's *Zeitschrift*. From an examination of the facts adduced, this author concludes that the following phases may be observed in pathological cyst formations. An effusion of fluid which may be serum, blood, colloid matter, or an exudation destined to become pus, takes place into tissues of either normal or pathological origin; the surrounding cellular tissue becomes thickened by pressure and extension, or by the help of the coagulable nature of the effused fluid. A simple cyst is thus formed, whose walls, in course of time, become smooth, and invested with an epithelium. In these walls new cysts are formed in a precisely similar manner, which increase in size, and in their growth encroach on one another so as to become united. From the walls of these cysts, when existing in extensive organized pathological products, differently formed growths will be found to spring, which more or less fill up their cavities. And thus, if in a fibrous tumour solitary interspaces are found, it constitutes the *simple cystosarcoma*; other modifications being respectively the *Cystosarcoma phylloides*, and *C. proliferum* of Müller(b).

Pathological Pigmentary Matter.—The variations in colour observed in diseased organs and tissues depend, according to Virchow, on the number and state of fulness of the blood-vessels, and the

(a) Jahresbericht, *loc. cit.*

(b) *Zeitschrift für Rationelle Medicin*, band. viii. p. 91, Heidelberg, 1849.

thickness and molecular arrangement of the tissues, and their influence on light, or on the presence of colouring matters within the organs and tissues. These colouring matters are, in general, of three kinds: coloured fat, changed or unchanged biliary matter (cholepyrrhin), and hæmatin. This last, which is capable of becoming extravasated from the blood-corpuscles, and may then undergo various changes, appears to be a very frequent constituent of the different pathological pigments. It may be observed in the stroma of many tissues as large irregular masses, sometimes circular, but more generally angular and pointed; at other times it will be found as a small powder, not unlike the ordinary uric acid sediment. The circumference of the little bodies is generally very sharp and dark, their surfaces brilliant and lustrous, which shows their thickness. In some instances they will be observed perfectly crystallized; the crystals vary in thickness, and under the microscope may be observed either of a tabular form or as rhombs; their colour is either brick-red, a golden yellow, or a deep ruby; they may be found free, in masses, or even inclosed in cells. Virchow has repeatedly met with them in cicatrices, imbedded in a thick layer of elastic fibres; they have been also observed in the Graafian vesicles, the brain, the skin, the spleen, and in the joints(a).

Epithelial Tumour.—Ecker has called attention to a class of tumours of the lip, which he has distinguished by the name of bastard cancer of the lip (cancroid growth, Bennett). It is believed at present that the seat of these tumours is not limited to the skin, but that they occur also on the mucous membrane. Rokitansky has found them on the mucous membrane of the larynx, the trachea, the stomach, the intestines, and the bladder; Küss has seen them on the dorsal aspect of the hand: they may be met with on the cheeks, the lips, the prepuce, the scrotum, and it is probable that the chimney-sweep's cancer is but an epithelial tumour. It is also pretty generally considered that these tumours are not of a malignant nature; Lebert regards them as benign, because they contain no cancerous globule; Sédillot is of the same opinion, as they do not exhibit fibrous or cancerous cellules. Rokitansky and Bruck, however, do not agree in these opinions. The most important question concerning them, in the opinion of Dr. Gorup-Bezanen, and which he has attempted to resolve by a series of observations, is, not whether these tumours may be benign, but whether they are altogether exempt from malignity. Three cases reported by this author give the following results.

First observation.—Rapid development of tumour in less than a year, ulceration, ichorous suppuration, pains; re-appearance six months after extirpation, with characters still more menacing. The tumour ulcerates; the subjacent bone is attacked to the extent of two inches; the roots of the teeth are laid bare.

Second observation.—Indolent ulceration, slow progress until exciting means were adopted.

(a) Jahresbericht, *loc. cit.*

Third observation.—Ulceration, pain, rapid progress; return six weeks after operation, with pain; cachectic aspect; new operation, to which succeeded a tumour of the neck.

These examples suffice to show that the too generally received opinion, as to the non-malignity of these tumours, is unfounded, and that they may exhibit characters of the greatest malignity(*a*).

In the fourth volume of the *Jahresbericht der Medicin* will be found a most extensive and able report on the subject of tumours, both benign and malignant, by Professor Albers, of Bonn. The opinions of the most able micrographers as to the possibility of arriving at a diagnosis of cancer from histological characters are considered at length, but we are unable to do more than allude to the publication of this report. We would also particularly call attention to the article on cancer and hypertrophy of the stomach and pylorus, by Dr. Carl Bruch, of Heidelberg, to which an entire number of Henle and Pfeufer's *Zeitschrift* is devoted (viii. Band. iii. Heft, 1849).

With these few notices of contributions to pathological histology, we are compelled at present to close our Retrospect. To do full justice to the subject would have demanded considerably more space than we have been able to command in the present Number. We hope, however, to be enabled at some early opportunity to return to the subject. Of the value which we attach to this department of research some evidence will be found in the introductory remarks of this article, and we sincerely trust that our predictions with regard to the cultivation of this branch of medical science in the Irish school will not prove unfounded. In the schools of London and Edinburgh not a few medical men have risen to fame and eminence from the prosecution of this method of research, while amongst our continental brethren the study of the microscope has long occupied a prominent position in medicine, and proved highly conducive to the advancement of professional knowledge. May we in Ireland not be slow to follow such worthy examples.

(*a*) *Archiv. fur Physiol. Heilkunde*. 1849; *vide Archives Generales de Médecine*, t. xxiii. p. 76, Paris, Mai, 1850.

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PART I.
ORIGINAL COMMUNICATIONS.

ART. VIII.—*Observations on Cholera, and especially on its Mode of Propagation.* BY ROBERT J. GRAVES, M. D., F. R. S.

SINCE the publication of my last paper in this Journal, on the propagation of cholera, the disease has committed considerable ravages in Great Britain and Ireland. The history of the epidemic, in these islands as well as in Europe, leaves no doubt that its appearance is not connected with the prevalence either of cold or heat, of dryness or moisture. It arose in Bergen, in Norway, in the month of January, exhibiting excessive virulence, and occasioning an almost unprecedented mortality, during cold so severe that mercury never thawed; and it prevailed in Dublin, in unusually hot weather, throughout the months of June and July. While the disease raged in Glasgow, the weather was very wet and rainy; but while it prevailed in Limerick and Dublin, almost uninterrupted

drought was complained of. During the recent visitation, the epidemic was not observed to prevail in localities possessing all the physical requisites so much dwelt on by the advocates of the endemic origin of cholera, more than in others entirely free from malarious influences. It was not found to frequent those parts of Dublin nearer to the river more than those remote from it; neither did a greater number of cases, in proportion to the population, occur in the poorer and less healthy districts of the town, than in the more opulent and better situated quarters. It was to be found equally in the most elevated parts of the city, such as High-street and Thomas-street, and in Luke-lane and Brunswick-street, which are situated nearly on a level with the river. The best ventilated and drained streets were not more exempted than those in an opposite condition; thus many cases were observed in Merrion-row, Upper and Lower Baggot-street, Wellington-road, and Pembroke-street, and also in some of the most healthy outlets, such as those in the vicinity of Rathgar.

It is a fact worthy of being recorded, that in Tralee, the best part of the town, that which is occupied by the more wealthy inhabitants, was the part chiefly devastated; the well clad, the rich, and the temperate were carried off, while the poor and intemperate who inhabited the lower quarter escaped. In Limerick, too, it was remarkable that the disease claimed many victims in the lunatic asylum, although that establishment is extremely well ventilated, and is a model of cleanliness and good management, and quite free from all the circumstances, such as damp, bad odours, or crowding, to which the origin of the disease is commonly attributed. In the case of the unfortunate inmates of the lunatic asylum, it is obvious that neither fear nor their imagination could have had any influence in promoting the spread of the disease; and as the diet of these persons was particularly good and regular, the contrast between their state and that of the prisoners in the Limerick gaol was in many physical circumstances very striking; for in

the gaol all manner of nuisances necessarily abounded, in consequence of the enormous number of prisoners who were crowded into that establishment, the number far exceeding that which the gaol was originally intended to accommodate. And yet, strange to say, while, as I have already mentioned, the inmates of the lunatic asylum suffered so much from cholera, the prisoners in the gaol altogether escaped. It is singular that, in opposition to facts such as these, Mr. Wakley, M.P., the coroner for Middlesex, should have ventured to assure the gentlemen composing the jury on a coroner's inquest held upon a person who died of cholera, "that he had never known a well-fed person die of the disease." Mr. Wakley's experience may miraculously support his theory, and must have been wonderfully relished by a well-fed metropolitan jury; but in Dublin, neither corpulence nor even extreme obesity were found to protect those who enjoyed such advantages from the shafts of the destroying angel. Two remarkable cases of death from cholera occurred in persons of unusual fatness; one of the victims was of such enormous size as to have surpassed all the previous practice of the Cook-street coffin-makers. According to my own experience, and that of most of my medical friends of this city, neither enjoyment of the best health, nor youth, nor temperance, nor an athletic frame of body, seemed to afford protection. The strong appeared to contract the disease as often as the weak, the young as the old, the temperate as the intemperate; and the infant at the breast fell a victim as rapidly as the mother who nourished it.

I regret to state, and the statement is corroborated by many other physicians in Dublin, that the type of cholera has not lost any of its virulence, and is fully as bad, if not worse than when it appeared here in 1832 and 1834. Seeing then the intense fatality of this epidemic, and its wonderful diffusion over the whole civilized world, it becomes our duty now, more than ever, to study attentively and seriously the laws which regulate its propagation. Deeply impressed with the respon-

sibility which attaches to every one who takes upon himself to pronounce an opinion upon a question so important, I have deemed it to be my duty to watch the progress of the epidemic in Dublin with the greatest attention, for the purpose of collecting new and authentic facts bearing on the question of its contagiousness. These facts I shall now proceed to make public, arranging them in a certain order.

First, Instances of cholera transplanted, as it were, from one locality to another, and spreading in the latter.

1. Mr. Shaw, of Earl-street, was called to see a Mrs. B., who was suffering from an attack of cholera. A friend of this lady, a Mrs. G., residing at the distance of half a quarter of a mile, came to attend her, having at the time an infant at her breast, which she brought with her. During Mr. Shaw's attendance on his patient, who subsequently recovered, Mrs. G. requested his attention to her own infant, who was ill, and, as she thought, suffering from the effects of cutting a tooth. The child, however, was evidently labouring under an attack of cholera, and died the same night. The mother returned home, and was attacked the next day, and shortly after three of her children also contracted the disease: the mother and three children all died.

2. Dr. M'Cormac, of Belfast, communicated to me the particulars of the following awful visitation:

A paper manufacturer, named Blow, living in Belfast, sickened nearly at the same time with his wife, and both died of cholera; their son shared the same fate; the female servant in the house and a man servant were seized with symptoms of the disease, but recovered. Mrs. Blow's brother, Mr. Miller, who resided at a distance, on the Carrickfergus shore, visited his sick sister, contracted cholera, and died in his own house. His nephew, Mr. Shaw, visited Mr. Miller, and also died of the disease, in his lodging below Hollywood. Mr. Shaw was attended by his sister, who took the malady and died likewise. They were both brought into town for interment in the same

hearse. This is an instance of double transplantation; from Belfast to the Carrickfergus shore in the first instance, and from the latter place to Hollywood in the second. Another fact connected with this case is especially deserving of attention. Three women, sisters, who were employed to wash the linen, bed-clothes, &c., of the deceased Mr. and Mrs. Blow, were assisted by a young girl; these four individuals all contracted the disease, and died within a few hours of each other, as did also a carter who assisted in placing the body of Mr. Blow in the coffin.

3. A recruit named William Gordon, arrived from Glasgow, at Beggar's Bush Barracks, on the 24th of June, 1849. It is supposed he brought the contagion of cholera with him, as he took ill of that disease on the 27th, and died on the 28th of June. A child about four years old took cholera in the room the recruit died in: this child died. On the 3rd of July Mrs. Duffy, who was in the same room with the recruit, took cholera, and died on the 4th of July. A servant maid of Mrs. Duffy's, who was staying in the room with her on the 3rd, and attended her during her illness, left the room on that day, and on the 6th took cholera. She was removed from the barracks to the Brunswick-street Cholera Hospital on the 7th. Between the 28th and 3rd July a woman, wife of a soldier of the 2nd or Queen's Own, took cholera and died; she was in the neighbourhood of the recruit Gordon. A child belonging to the 2nd or Queen's Own took cholera in the room the soldier's wife was staying in, and recovered. This account has been furnished to me by Mr. Reid of Mount-street.

4. The Rev. Mr. Disney, Rector of Slane, has sent me the following fact:—"In July a poor beggar-woman came to Slane, and was taken ill just as she entered the town. A man named Thomas Vaghey, who was employed for the purpose of preventing the entry of beggars into the town, raised her from the ground where she was lying, and carried her to a shed, where she died; he got cholera in less than two hours afterwards,

and died ; his sister, who attended him, likewise took the disease, and died the day after. Up to the time this man got the disease from the strange beggar, nothing like cholera existed in Slane."

5. Dr. Beauchamp is my authority for the following instance. A woman about forty-five years of age, living in New-street, went to St. Andrew-street to nurse a child ill of cholera ; the child recovered, but the woman returned home, took ill, and died. Her husband and two of her children contracted the disease, and shared the same fate.

6. Surgeon Leney, of Bray, attended Eliza Sinnott, aged thirty years, on the 16th June. She had gone to Dublin on the previous day, and visited a friend labouring under Asiatic cholera. At 7 o'clock in the evening of the 16th she was seized with cholera, and died at 7 o'clock on the morning of the 17th. Her sister, who attended her, had an attack on the 20th of June, but recovered. There was no other instance of cholera in the town previously to these cases. Surgeon Leney, in a letter written on the 30th April, 1849, says:—" I was of opinion that cholera was not contagious ; but this opinion has been shaken by the following cases which occurred here [Bray] recently. A woman named Catherine Doyle, sixty-six years of age, died on the 21st of April, of cholera. A woman in the neighbourhood, named Mary Neill, forty-two years old, washed the body of the deceased, preparatory to interment, and was taken ill on the morning of the 23rd of April, and died at 4 o'clock on the morning of the 24th. William Neill, her son, a boy eight years old, showed symptoms of the disease at 4 o'clock on the morning of the 24th, and was dead at 1 o'clock, A.M., on the 25th April. His sister, Mary, nineteen years of age, was attacked at 4 o'clock on the morning of the 28th, and died at 8 o'clock in the evening of the same day."

7. I am indebted to Dr. M'Cormac, of Belfast, for the following instance:—"At the beginning of April, 1849, a car-

driver from Lisburn, where cholera then raged, was seized with the disease at Ballinderry, seven miles distant from the former town; he was lying in the street in Ballinderry, until kindly admitted by a relative of his own into her house, and placed in her husband's bed. The driver died, and was duly waked. His kind host and hostess proceeded to occupy the now vacant bed, when first the man took cholera and died; then the woman sickened with the like fatal result; and, lastly, two of their children perished; while the only member of the family left alive was an idiot girl. There had been no case of cholera in Ballinderry before this melancholy occurrence."

8. The Rev. Arthur Hyde, rector of Mohill, states the following very awful instance (in its results) of infection transplanted by means of clothes:—"A poor man and his wife, almost the first sufferers from cholera in this village, died, and were interred so speedily that their friends had not an opportunity of waking their bodies. They came, however, a distance of nine miles, and, taking away the clothes to the residence of the deceased, waked the clothes instead of the bodies. Eleven persons attended the wake, all of whom were seized with cholera, and died after great suffering. Dr. Dukes, our dispensary physician, attended these people, and fully confirms my statement."

9. Dr. Reid of Mount-street has supplied me with the following facts also. "Mrs. Moylan, living at No. 2 or 3 Mellifont-avenue, Kingstown, took cholera about the 3rd July, and recovered. In eight or nine days after this attack, some friends came from England on a visit; one of them, a young lady, took cholera after her arrival, and died; another, an old lady, removed, on the death of the young lady, to a house some four or five doors distant in the same avenue: in a few days after her removal she was attacked with cholera, which proved fatal. On the 10th of July, Miss Macdonough removed from Northumberland-avenue to the house in Mellifont-avenue, where the first-mentioned deaths occurred. On the 12th, two

days after, she took cholera at 8 A.M., and died at 7 P.M. The servants said that the bed-clothes used by the young lady were also used by Miss Macdonough."

10. The subjoined instance of transplantation occurred in the practice of a friend of Dr. Leet's, from whom I have received it. Dr. — visited a young girl stopping at the house of Mr. O'Neill, a respectable tanner in this city. On seeing the young lady, he at once pronounced her to be ill of cholera, and expressed his apprehension that there was but little hope of recovery. Mrs. O'Neill, on learning the character of the young lady's malady, at once removed to Cabra, a healthy suburb at the north side of the city, where her daughter-in-law resided. The physician had scarcely returned home from his visit, when he was sent for to go to Cabra to prescribe for Mrs. O'Neill, who had been attacked with decided cholera, vomiting, purging of rice-water, and symptoms of collapse. She recovered. The servant woman who attended her at Cabra took the disease, and died in the house, as also the woman who was brought in to wash some of the clothes.

11. Dr. Hammerton, of Castletown, Navan, recites several cases, in which there is reason to believe that the disease was propagated by means of the pernicious custom of waking, so pertinaciously adhered to by the Irish peasantry. In his district the wake of a man, who died of cholera, first gave rise to the disease. A man named John Crahan, who, amongst others, attended the wake, was seized with the disease in a very violent manner. In another case, the person who washed the body sickened the same night, and was dead before morning. "Another mode," says Dr. Hammerton, "by which cholera is, I think, propagated in the rural districts, is the following, viz.:—a herd goes to a market-town with his master's cattle, where cholera is raging, returns, and in a day or two is seized with the disease. I have heard of more than one instance of the disease being disseminated in this way."

12. Dr. Hudson, of Navan, mentions two indubitable in-

stances of transplantation in the following letter which I have received from him: "According to your wish, I send you a note of some cases in which the diffusion of cholera seemed to follow from the introduction of a case into a house in the neighbourhood. The first instance was that of a man named Kiernan, who came from a place in which cholera was prevalent, to his brother's house, in a lonely part of the country, he being at the time in the commencing stage of the disease. He died on the following day, and on the day after his death his mother and brother were attacked with the disease. A woman, named Mary Fay, died of cholera in Navan on the 3rd of July. A child, eight years old, who had lived and slept with her up to the day of her death, was removed on that day to a house about a mile from the town, situated in a small hamlet. This child had cholera on the 6th; during her illness she was constantly visited by a woman named Mary Downes, who lived in the adjoining house. This woman sickened on the 12th."

13. For the following fact I am indebted to Drs. Bernard and Wallace, of Charleville, in the county Cork: "A healthy man, living sixteen miles from Limerick, went to that city in March last, when cholera was raging there; he returned home on the same day, and in the course of the evening was seized with diarrhœa, and before he sent for, or indeed could procure medical advice, he fell into collapse, and died of Asiatic cholera. Before he went to Limerick he was in excellent health, and, what is more to the point, so were his mother, sisters, and brothers, whom he found well on his return home. Yet, on the morning succeeding his death, three of the family were attacked, and died of the disease in twenty-four hours." Drs. Bernard and Wallace, who are by no means decided contagionists, in communicating this fact to me, observe:—"We see this fact favours the doctrine of contagion,—since, first, the man was perfectly well until he went to Limerick, where cholera was raging; secondly, since no disease of the kind was

epidemic in his own locality, his family and neighbours being previously in good health; thirdly, as three members of his own family took the disease and died of it, after his death, from the same cause; and, lastly, since none of his neighbours living near him contracted the disease, as it is probable they would have done if the atmospheric poison was in the locality at the time."

14. Dr. Trenor has sent me the following case:—"Mrs. D., residing at Montpelier-hill, died of cholera early on the morning of the 17th June. Her daughter was asked to spend the following day in a house within two doors of her mother's residence. One of the children in this house, a boy, four years of age, she caressed and nursed during the day, and on the 18th this boy was attacked with cholera, and had a very narrow escape."

15. Dr. Clarke, of Naas, is my authority for the following very important cases:

"A woman named Allen, wife of a herd living at Sherlockstown, near Sallins, County Kildare, was sent from Dublin the infant child and clothes of a relative of her's who had died of cholera in that city. Two days afterwards she was seized with cholera and died; this was the only case in that locality. A man and his wife, named Finnemore, living near the village of Rathmore, County Kildare, went to Dublin to see the Queen last August. The evening of the day on which they returned the wife was seized with cholera, and died next morning. The succeeding night the husband was attacked, and died the following morning. A woman named Johnson went to the house to wash the clothes of the deceased; in two days she also fell a victim. The Finnemores were of independent circumstances, and lived in a very neat cottage, isolated from any other houses; the locality around was remarkably healthy: and no other case of cholera occurred in that district. A carman named Connor drove to Dublin from Naas last August; on his return he was seized with cholera at Rathcoole, and died after his arrival at Naas."

The foregoing list of instances in which cholera was carried from one locality to another, where no such disease had previously existed, and where, notwithstanding the spread of the disease was from an imported source, other individuals were affected,—this list, I say, exhibits almost indubitable proofs of the contagious nature of cholera; and the facts therein recorded cannot, in the estimation of any candid mind, lead to any other conclusion than that which I have advocated.

I now proceed to another order of cases, in which the diffusion of cholera took place under circumstances which, if not demonstrative of its contagiousness, at least render that quality of the disease highly probable, if we rest it upon these facts alone, but, when coupled with the preceding, leave no doubt upon the subject.

Dr. Wharton, of York-street, has communicated the following:—"Mrs. O'N., of Camden-street, died of cholera on the 14th July, 1849. Two days after her decease, her servant, Eliza O'Brien, who constantly attended her during her illness, sickened, and was saved with difficulty. A young woman named Ellen M'Loughlin visited this Eliza O'Brien more than once, contracted the disease, and died on the 17th July. On the 19th July Mrs. O'N. (the deceased lady's daughter), caught the disease, and with difficulty recovered."

Dr. Trenor, of Mount-street, stated to me, "that he saw a case in Sackville-street, in company with the late Mr. Carmichael. The sufferer, a lady, had died of cholera on Sunday, and before the body was placed in the coffin on Monday, the nurse took a little child (three years old) in her arms into the room, and placed her over the body to see it for the last time. At 5 o'clock on the same day the child was attacked with cholera in a very severe form, but ultimately recovered.

A remarkable proof of the contagiousness of cholera was exhibited in the family of Mr. Murphy, a wealthy salesmaster.

Mr. Murphy lived in a beautiful villa near Stillorgan, and, notwithstanding that he had amassed a large fortune, at-

tracted by the force of habit, he often frequented the scenes of his former labours, a day hardly passing that he did not attend at Smithfield.

Mr. Murphy was seized with cholera, which proved fatal; his eldest son was subsequently attacked, and likewise died; one of his daughters also fell a victim, and four of his domestics and attendants were carried off by the same fatal disease.

Mr. Murphy's residence was situated in an extremely healthy, elevated, and well-drained part of the country, surrounded by an extensive demesne; and it is remarkable that, of all the inmates of his house, he should have been the first that succumbed, being the person whose habits most exposed him to contact with the infected.

Mr. Henry Halahan, of Stephen's-green, has furnished me with the following examples:

Catherine Higgins, aged 70, had been living in the country all her life until lately, when she was in the habit of coming to Dublin to take care of her daughter's children. Her son-in-law being ill of cholera, she was sent for, and shortly arrived at his house, fresh from the country. Soon after her arrival he died, and on the night following, she, with her daughter and two grand-children, slept in the same bed in which the man died, taking no precaution but the removal of the sheets. In the night she felt herself unwell, complaining of purging, vomiting, &c.; everything was done to save her, but with no effect, as she soon sank into collapse, which terminated fatally at 7 o'clock the same evening.

The late Surgeon Rooney was seized with cholera on Monday, August 19th, and died on the 26th. On the 25th, the day before his death, his daughter took ill, and sank under the disease the same evening; his nephew was attacked on the 28th August, and died the same evening; a grand-daughter took the malady on the day of his death, 26th August, but recovered; and on the 30th his son-in-law was attacked with diarrhœa, and had a narrow escape.

This case is the more valuable, as Dr. Rooney's house was airy and well ventilated, and situated in one of the best drained and healthiest suburbs, viz., Mountpleasant-square.

Dr. Leet has furnished the following interesting and remarkable instance of cholera produced by exhalation from an open grave:

“ Dr. ———, with his wife and a friend, were on a visit at the Botanic Gardens, Glasnevin, which adjoin the well-known burial-ground at that place. Coming from the gardens they were induced, from curiosity, to walk through the graveyard, in the course of which they observed several uncovered graves, containing some coffins recently deposited, and from one of them they were struck with a very offensive smell; a cholera corpse had been interred in it. Beyond the smell there was nothing unusual felt by any of the party, until their return home, when all were immediately attacked with symptoms of cholera. With Mrs. ———, indeed, I might say, no symptoms at all preceded the collapse, which seized her at 1 o'clock A. M., and terminated fatally at 6 P. M. the same evening. The other two were saved with much difficulty.

Mr. Vance, of 63, Upper Dorset-street, died of cholera, on Monday, 25th June. His sister-in-law, Mrs. Johnson, resident in the same house, sickened on the 28th, and died on the 29th; her mother removed to Florinda-place, and was there seized with the disease on the 1st July.

The boy who was employed to carry down Mr. Vance's bed was also attacked with cholera.

Mrs. Shea died at the Crescent, near Clontarf, of cholera, on the 7th June. On Sunday, the 10th, the Rev. Mr. Tyrrell came up from Kinnealy, where there was no cholera, and breakfasted and dined at the same house in the Crescent where Mrs. Shea died. On the following Tuesday he was seized with cholera, which terminated fatally on the next day, the 13th, at 2 P. M.

Miss ———, sister to the deceased Mrs. Shea, came up from

the County Louth to visit her, and saw her when dead, she remained in the house, sickened at 3 A. M. on the 13th, and died same day at 2 P. M.

Mr. Drake, apothecary, Rathmines-road, attended Mr. and Mrs. Sherry, both of whom died of cholera. During their illness he was most assiduous in his endeavours to relieve them. A few days after their death he was attacked with premonitory diarrhoea, on the 18th of June, but arrested its further continuance by means of acetate of lead and opium. He thought himself well during the week, and regularly attended to his business, but felt all the time a great thirst, though free from either diarrhoea or sickness of stomach. On Sunday, the 24th, he was seized with a sudden attack of cramps and collapse, with scarcely any diarrhoea or vomiting, and died in a few hours.

The preceding facts indicate so clearly the contagious nature of cholera, and contradict so strongly the official announcement of the Central Board of Health, that I am persuaded its members, Sir Philip Crampton, Sir Henry Marsh, and Doctor Corrigan, must now regret having lent the no small weight of their names and of their authority to a Circular containing the following passage:

“ The Commissioners of Health are anxious to impress upon all persons the important difference that exists between cholera and fever, with respect to the mode of propagation of these epidemic diseases. Fever, it is well known, is highly contagious, or easily propagated from one individual to another; while all experience shows that cholera is rarely, if ever, contagious; consequently, the separation of the sick from the healthy—a measure so essential in checking the spread of fever—is not required in cholera; and the friends and relatives of persons attacked with cholera may be under no apprehension of catching the disease, and need not be deterred from affording to the sick, in their own dwellings, every needful assistance and attention. The Commissioners of Health, after

mature consideration, do not advise that cholera should be met by an extended system of hospital accommodation, such as is needful in epidemics of fever, but recommend, in preference, a general system of prompt and efficient dispensary relief. The non-contagious character of cholera fortunately removes all objection to the receiving of persons suffering under the disease into the ordinary hospitals of the country, whether county infirmaries or fever hospitals, all of which the Commissioners of Health advise should be open and in readiness to receive destitute patients in cholera."

The advice of the Commissioners thus given, after mature consideration, no doubt influenced many friends and relatives who now no longer need assistance and attention.

The recommendation of the Commissioners, that the ordinary hospitals of the country should be opened for the reception of cholera patients, has led to consequences not less unfortunate to the other inmates of these hospitals, among whom the disease spread, notwithstanding the above official predictions. Thus, in the fever hospital of Tulla many caught the disease, and in Ennis the following letters sufficiently attest the same melancholy result:

"At a meeting of the Sanitary Committee yesterday evening, the following letter was read from Dr. Whitestone:

"To the Sanitary Committee.

"GENTLEMEN,—As one of the physicians at present in attendance at the fever hospital, a part of which has been allocated for the reception of cholera patients, I feel it my duty to call your attention to the alarming fact, that several patients in the hospital have been already attacked with cholera; and to inform you that, in my opinion, many more will be similarly affected before long. Under these circumstances, I would strongly recommend you immediately to take steps to prevent the fatal consequences which must result from a continuance

of the practice of receiving others than cholera patients into the hospital for the present.

“ ‘ I have the honour to be, Gentlemen,

“ ‘ Your obedient Servant,

“ ‘ FRANCIS WHITESTONE,

“ ‘ Surgeon.

“ ‘ *Bindon-street, March 25, 1849.*’ ”

“ The following statement on the subject was also subsequently submitted to the Board by Dr. O'Brien :

“ ‘ In consequence of the very rapid and fatal spread of cholera amongst the patients and others in the fever hospital, I beg to suggest to the Sanitary Committee the imperative and urgent necessity of providing *separate* accommodation for the persons labouring under both diseases. This can be done either by stopping the admission of cholera patients into the fever hospital, and providing accommodation for them elsewhere, or by removing the fever patients to another establishment.

“ ‘ GEORGE O'BRIEN,

“ ‘ *One of the Physicians to the Fever Hospital.*

“ *Ennis, March 25, 1849.*”

The danger resulting from the indiscriminate admission of cholera patients into hospitals intended for the reception of persons suffering under other complaints, is further proved by the following extracts from the Medical Gazette of April 6, 1849; and, from inquiries I subsequently made, I have no reason to doubt the perfect accuracy of the statement. The fever hospital referred to is situated in the town of Lisburn, a very clean and healthy place, and more than usually free from the nuisances, incidental to towns. Lisburn is twelve miles distant from Belfast.

“ From its first appearance, on the 24th January, till now (March 29), 223 cases have been reported: of these, 125 recovered, 75 died, and 23 remain under treatment. For three

weeks after the first two or three cases, the disease made little progress; but suddenly after that it broke out with fearful malignity, and, owing to the poor not feeling the importance of early attention to its premonitory symptoms, and not thinking it cholera until they were in collapse, nearly all the first cases proved fatal. The Board of Health issued placards warning the public of the approach of the pestilence; directing what to use and what to avoid; also stating that no one need be afraid to afford every assistance in their power to their neighbours, as the disease was not contagious; and also recommending the treatment of the affected in their own houses, or in hospitals among other patients. To carry out the latter part of their recommendation, many of the cholera cases were removed to the workhouse fever hospital, where cholera had not previously existed, but in which it has from that period till now proved highly fatal to the fever patients, the greater number of whom have been seized, either prior to or during convalescence, and, with one exception, all carried off. A few weeks ago, four patients, members of one family, labouring under maculated typhus fever, were admitted into the fever hospital: three were seized with cholera, and died. Six of another family were received: two have died of cholera, and the remainder still exposed will perhaps sink under a disease which did not exist in the locality from which they came."

I have carefully inquired among my brethren in Dublin, respecting their opinions as to the amount of danger which medical men are exposed to in their attendance on cholera patients; and they mostly concur in representing the result of their experience to be, that a medical man, who is much employed about such patients, seldom escapes an attack. It is true, as a body, we have much reason to be thankful, that in Dublin not more than four or five deaths took place among the medical profession. But in explanation of this comparatively light mortality, it is necessary to observe that it was altogether owing to the knowledge medical men have of the

premonitory symptoms which denote the very commencement of cholera, and to the care they take, instantly, to meet such symptoms with appropriate remedies. I, myself, was twice attacked with decided premonitory symptoms. I felt myself ailing, fatigued, and annoyed by flatulence, rumbling, and dyspepsia. These symptoms denoted the preparatory stage of incubation, and were followed by premonitory diarrhœa, and in each case I had some difficulty in arresting its progress.

The same symptoms, with a like fortunate result, were observed by a great number of physicians, surgeons, and apothecaries in this city.

It is quite true that the greatest care will not always be sufficient to preserve life, for in some cases the attack of cholera is so sudden and unexpected as to leave no room for either precaution or treatment. Such instances are, however, in reality, very rare, although the number of persons reported to be thus carried off is considerable, for a more accurate investigation will generally lead to the discovery of premonitory diarrhœa, often so slight as scarcely to have attracted the attention of the patient.

While on the subject of cholera hospitals, it is necessary to observe, that the officers appointed by the Board of Guardians [in Dublin, for the relief of the poor, were, during the whole of the epidemic, extremely active, and used every means to arrest its progress, which the funds at their disposal allowed. Among the rest, they rented private houses in various parts of the town, which were fitted up for cholera hospitals. It is worthy of notice, that the poor did not avail themselves of these establishments at all in the same proportion as in 1832 and 1834, when large buildings, such as the Grangegorman Penitentiary, and the Depôt in Townsend-street, were taken and prepared for the reception of cholera patients. In the furnishing of these buildings, considerable sums of money were expended by the Government, which gave the hospitals the appearance of being well and comfortably prepared. This had

an evident effect upon the minds of the poor, and won their confidence to such a degree, that they flocked in great numbers to these establishments for relief. This was by no means the case in the epidemic of 1849, during which it was extremely difficult to get people to bring their friends suffering from the disease to hospital. These places, which had not externally a very attractive appearance, consequently fell into disfavour in the minds of the people, who unwisely preferred almost certain death at home, in their own crowded and miserable rooms, to the chance of being cured in hospital. I knew myself an instance, in which several persons inhabited one small apartment near such an hospital, and who died in succession of cholera, each individual being apparently more alarmed at the prospect of a cholera hospital than even death itself.

It is worthy of remark, that some of the districts in Dublin which suffered most during the visitation of 1832, escaped almost unscathed in 1849. Church-street affords an example of this, and is quite a puzzle to those who account for the disease by lowness of situation, bad sewerage, &c., &c.; for in all these respects Church-street and its vicinity deserve now, as well as then, an unenviable notoriety. The village of Castleknock is situated three miles from Dublin, in an elevated position, well drained, and built upon a dry limestone soil,—this village was unvisited by cholera in 1832 and 1834, but lost half its inhabitants in 1849. Such an occurrence, though explicable on the supposition of contagion having been introduced during one epidemic, but not during the others, cannot be accounted for on the want of drainage and sewerage hypothesis. It has been asserted by the Board of Health in England, that cholera affects certain unhealthy localities only, and that such places suffered most severely from its ravages, as were either badly drained, had narrow streets, or contained a pauper and consequently an ill-fed population. The course which the epidemic took on the occasion of its visit in 1849, presents so many

contradictions to this, that we are compelled to doubt both the accuracy of the assertion, and the correctness of the numerous conclusions deduced from it.

Thus we find that some of the healthiest localities in Ireland were sadly affected during the existence of the epidemic at this period; for instance, Parsonstown,—than which no town in Ireland is better drained, more cleanly, or more carefully sewered,—suffered severely, and yet its population, generally speaking, are much more comfortable than is usually found in this country, and the streets have an air of neatness and cheerfulness which reflects the highest credit upon the noble and justly celebrated lord of the soil, the Earl of Rosse. In truth, if the theory of the English and Irish Boards of Health was correct, a visitor to Parsonstown, relying upon such an hypothesis, might, without hesitation, calculate upon its complete freedom from the scourge of cholera. But, as I have already showed, such an anticipation would have been anything but verified in the result; for the inhabitants of this very town fell victims to the disease in a far greater proportion than other places in Ireland, which, according to the Boards I have mentioned, might have been expected to suffer to a greater extent, from the fact of their containing all the causes and elements supposed to be calculated to generate and nourish this epidemic.

The village of Bray, in the county of Wicklow, affords an example equally strong, being interestingly situated on the side of a granite mountain, and its single street extending far up the hill. Its position is celebrated as being particularly healthy, and is much resorted to by invalids from Dublin. Here, at all events, no want of proper drainage could possibly exist, and here there is no numerous pauper and filthy population; yet this village was awfully scourged by the cholera in 1849, while adjacent villages, such as Enniskerry, Loughlinstown, and Cabinteely, situated in lower, more confined, and much moister positions, escaped nearly altogether.

Carlow is an extremely well-situated town, and built upon a very dry soil, the same may be said of Bagnalstown; and yet the respective populations of these places were decimated in 1849 by cholera, while many towns and villages notoriously impoverished and unhealthy escaped during the existence of the same epidemic.

My friends, Doctors Farr and Sim, have argued most ingeniously upon the facts they have observed in England; but I think, that the foregoing instances prove that they very incautiously argued upon these facts, and too hastily ventured upon generalization, which a more extended observation completely refutes.

In a former paper I have shown, that if we take a world-wide view of the progress of cholera, we shall find that its prevalence is entirely unconnected with any physical peculiarities either of soil, temperature, climate, water, air, or food; and certainly the history of the late epidemic verifies the conclusions I there drew. The history of the disease in Dublin is alone sufficient to dispose of the favourite conclusions of those who connect the usual sanitary conditions of towns and countries with the appearance of the cholera. Of these I have already spoken. I may now add, that there was very little cholera in Patrick-street and the adjoining parts, although these districts are the most densely inhabited, the worst drained, and the most filthy to be found in the whole city.

In a letter received from Dr. Kelly of Drogheda, he gives the following particulars relative to the village of Duleek, which I think are well calculated to elucidate the subject under discussion:

“Duleek is distant about four miles from Drogheda, situated in low, swampy ground, and contains 1600 inhabitants of the very lowest class, who are without employment nearly all the year, except during the harvest season, and are consequently without food, fire, or clothing, and live in a most shocking state of filth and wretchedness; nevertheless, but two cases of cholera

occurred during the entire period of the disease. The foregoing statement has impressed me with the opinion that cholera is a disease *sui generis*, and totally uninfluenced by such agents."

The villages of Sallynoggin, near Kingstown, six miles from Dublin, and Goatstown, near Dundrum, four miles from Dublin, have both suffered much from cholera. In the former more than fifty individuals died, being, I believe, about one-fourth of the entire population. These villages are situated in most healthy localities, at a considerable elevation, and built upon a very dry soil. In neither does there appear to be the slightest want of drainage, nor the existence of any of those nuisances to which public opinion, misdirected by Boards of Health, is accustomed to attribute the origin of cholera. Sallynoggin in particular, occupying the declivity of a hill, the subjacent rock of which is granite, suffers rather from a want than a superabundance of water; and at the time of the invasion of cholera, the soil was parched by a long-continued drought.

The following letter, from my kinsman and former pupil, Dr. Graves of Rush, bears so directly on the question at issue between me and the central Board of Health of Ireland, that I have thought it well to print it *in extenso*:

"As you have ever been the advocate of the contagiousness of cholera, and as I have had much opportunity of observing the progress of this disease, and its mode of propagation, I am sure that any facts bearing upon this question will be gladly received by you. I purpose, therefore, to let you have a brief history of what would seem to me to bear conclusive evidence, that cholera, once it has taken up its abode in a locality, is both infectious and contagious.

"You are, doubtless, aware that Rush (the seat of my labours) suffered severely from the late epidemic, 824 individuals of all ages and sexes having been attacked, and 176 having died, and this out of a population not exceeding 2500. The village of Rush extends for about one mile along the coast, east

and west, being little elevated above the sea, the soil sandy, and for the most part dry. The population may be divided into two classes, one half deriving a scanty and precarious subsistence by fishing; the other half an agricultural class of labourers and small landholders. The fishing class is confessedly the poorest, and for the most part live in wretched and filthy dwellings in the east end of the village. Indeed I may here remark that the houses in Rush are of the worst description, constructed without any regard to ventilation, and seldom containing more than two small compartments, in which are congregated often as many as eight, and even, in some instances, ten individuals. There being no upper story, they all live on the ground floor, which is scooped out of the sand, and then lightly covered over with yellow clay; thus in rainy seasons becoming a fertile source of disease, from its extreme dampness. From this sketch of our village, you will not wonder that such numbers were attacked, more especially when I tell you that, when the disease arrived at Rush, it found us unprovided with an hospital; thus, in the houses of the poor, rendering it impossible to separate the sick from the healthy.

“Before the cholera reached us, it prevailed at Swords, about six miles distant, which gave us time to make what were supposed to be the necessary preparations for its visitation. Whitewashing and cleansing were diligently had recourse to; all nuisances, such as dunghills and stagnant pools, which might be considered as dangerous to the public health, were removed; but, as I have just stated, we were found wanting in the greatest *essential*,—namely, good hospital accommodation; this, by a *false economy*, we were prevented from enjoying until the disease should actually appear amongst us, which it did on the 14th of August, 1849, in a very aggravated form, and in the most airy and cleanly part of the village. The first case was that of a small landholder, and the village nailer, a man in comfortable circumstances, residing about the middle of the main street; he was attacked on his way from the Dublin mar-

ket, and died in about eight hours from the first invasion of the disease. Six days elapsed without any other case occurring, when suddenly this man's wife, who attended him most assiduously, was carried off, after a few hours' illness. One of their children was the next case; it recovered with great difficulty. The fourth case was that of a neighbouring woman who volunteered her services as nursetender to this family; she narrowly escaped. A circumstance of rather a remarkable nature now occurred in connexion with the fifth case, a boy of sixteen years of age. This nursetender, at the period when she offered her services to the nailer's family, whose house was exactly opposite the one in which this boy lived, was engaged attending upon him in typhus fever, from which he was then slowly convalescing, so that, until she was herself struck down, her attention was divided between him and her cholera patients. This boy, who was still confined to his bed, was attacked with cholera, and from his weakened state easily fell a victim to it. Now, whether this nursetender conveyed the contagion to him in her clothes, I will not take upon me to decide; but the facts would seem to favour such a view. A brother of this boy next fell a victim; so that up to this period, that is, ten days from the date of its first appearance, we had the disease confined to two houses in close proximity, six of the inmates having been attacked. The disease now began to extend rapidly westward, appearing in several localities almost at the same time, seldom leaving a house without attacking several of the inhabitants, and, in some instances, sweeping off whole families. When it appeared in a locality it never left it without attacking almost every house in its immediate neighbourhood; and this without reference to drainage, cleanliness, or ventilation: clean houses in the vicinity of dirty ones suffered in like manner. In fact, so evident had the signs of contagion now become, even to *non-medical* minds, that friends and relatives fled from their plague-stricken houses, leaving the sick and dying to the mercy of any one who might have sufficient courage and cha-

rity to administer to them in their hour of need. From the 14th of August to the 10th of September, the disease continued to spread westward from the house first attacked, no case up to this time having occurred east of it, though in the east end of the village reside the fishing class, remarkable for their poverty and want of cleanliness,—a class that, reasoning *a priori*, you would say was most likely to suffer from an epidemic such as cholera. On this day, the 10th, a woman remarkable for her intemperate habits was seized with the disease, and died; her husband next fell a victim, and from this time it continued to progress eastward, as it did at first westward, but not with the same violence. Cases became more amenable to treatment; and from the fact of our hospital being now available, and separation of the sick from the healthy being had recourse to speedily, the rapid progress of the disease in families was checked. Of 105 families, some one member of which was admitted into hospital, forty escaped with only the admitted member being attacked, and in these instances the separation was had recourse to immediately. Amongst the remaining sixty-five the disease continued to spread, notwithstanding the separation, but in many of these separation was not resorted to immediately. Another remarkable instance, in proof of the contagious nature of cholera, occurred at the Balrothery Union Workhouse, about four miles distant from Rush. No case of cholera had occurred in the house, nor was the disease prevailing in the vicinity, when some cases were admitted into the workhouse hospital from the district of Swords, which was six miles off. In a few days after cholera broke out amongst the paupers with violence; owing, however, to the judicious arrangements of Doctor Adrian, the house physician, in cutting off all communication between the paupers and the cholera hospital, the disease soon disappeared. Of four men whom we had employed to bury the dead, three were attacked with cholera, two of them recovering with difficulty. Of six nurses employed, four contracted the disease, and two died.

“ Let me now recapitulate the facts which have induced me to believe that cholera is contagious:

“ 1st, From its progressing by attacking in detail those who had been in attendance upon or in close proximity to the diseased. 2ndly, From its spreading from house to house in any locality where it appeared, rarely entering a house without attacking several of the inmates, the mortality being greatest when numbers were congregated together in small and ill-ventilated abodes. 3rdly, From the negative information furnished by the fact of the disease having attacked only one member of forty families, where separation was had recourse to early; such a result, in families where no separation took place, being the exception, not the rule. Lastly, from the fact of cholera having made its appearance at the workhouse immediately after the admission of cholera patients from a distant part of the Union, no case having previously occurred in the house or its vicinity.”

In a former paper I dwelt upon the proof of the contagiousness of cholera, derived from the fact of its spreading so often among the crew and passengers of ships, in which the disease once appeared. Since that paper was published several instances of this nature have occurred, and that under circumstances calculated to negative the various hypotheses accounting for the spread of the disease advocated by many writers, and by the Boards of Health in London and Dublin. It is well known that the packet ships, which ply between Liverpool and New York, and which are usually called Liners, are remarkable for the excellent arrangement of everything on board. In such vessels it would be impossible for cholera to commit ravages to any extent, if the disease be produced solely by emanations from sewers, or by vitiated states of atmosphere arising from want of ventilation and overcrowding.

In these ships such circumstances are never allowed to exist; and consequently cholera, if the usual hypothesis be correct, should be extremely rare among the inmates. We

find it, nevertheless, announced in the London Medical Gazette of September 7, 1849, that the packet ship "Oxford," arrived at New York, lost twenty-one by the disease; and the packet ship "Sheridan," thirty-one. Such an occurrence is easily explained on the principle of contagion, but not by any of the hypotheses which attribute the dissemination of the disease either to impurity of water, malarious emanations, atmospheric changes, &c. &c.

Subjoined are instances of deaths from cholera occurring on board the regular steam packets plying between Liverpool and New York, all of which are vessels remarkable for their superior accommodation and cleanliness, and for the possession of every convenience which can insure to the passengers by them the enjoyment of health and comfort.

The first is that of the "Columbus," which arrived at New York on the 8th October, 1849, from Liverpool, having had no less than thirty-six deaths among the passengers from cholera during the voyage.

The Evening Mail of the 27th October, 1849, furnishes me with others, and mentions that the deaths of late on board these vessels have considerably increased. The last packet which sailed previously to the above date had nineteen deaths, and the last but one fifteen deaths, all from cholera.

I am glad to find that Dr. James Copland, the author of the celebrated Dictionary of Practical Medicine, entirely agrees with me, both as to the contagiousness of cholera, and the inadequacy of the measures adopted by the Boards of Health with the view of arresting its progress. In a letter addressed to the Editor of the Medical Gazette, and published in the number of that periodical for September 28, 1849, the following observations occur:—"The Board of Health, which was formed in 1831, consisted of three very experienced physicians,—of two who had investigated very closely the nature of the choleric pestilence, the third had had the greatest experience of any man living in other pestilences. This Board wisely

endeavoured to prevent the spread of choleric pestilence, by removing those of the poor who were attacked to cholera hospitals, in order that they might not be the sources of infection in their several residences and localities, and by other means calculated to prevent infectious emanations from the sick. The members of this Board, experienced and practical physicians, acted on the conviction of the infectious and specific nature of choleric pestilence, and did all they could to limit its spread by acting on this conviction. The results were, 1st, that the spread of the pestilence was then comparatively limited; 2nd, that many populous towns and districts escaped altogether; and, 3rd, that the disease entirely disappeared for nearly seventeen years. The present so-called, or popularly called Board of Health, but legally denominated Board of Works (see the Earl of Carlisle's letter), take opposite views of the nature of the disease, act accordingly, and allow a malady, which judicious measures might have arrested altogether at an early stage of its diffusion, to become destructive to an extent far beyond the history of modern pestilence, and, moreover, recklessly run the risk of domiciliating the disease in this country, as it has been in India since 1817."

The manner in which the cholera increased immediately after the Queen's visit to Dublin was very remarkable, and, in my mind, strongly corroborative of my opinion respecting its contagious nature. Indeed, upon observing the immense crowds that poured into the city from all parts of Ireland, for the purpose of witnessing Her Majesty's entry into the Irish metropolis, I mentioned to many of my friends the fears I entertained, that the disease would be more widely spread, and considerably aggravated, during each day of Her Majesty's sojourn. These fears were much heightened, when I beheld the crowds of persons, of all classes, who sallied forth—too many of them from abodes of misery—to view the magnificent and brilliant appearance of the city on the evening of its illumination, and who thronged every place or thoroughfare, both

in the city, Kingstown, and elsewhere, in which Her Majesty was expected to appear. Relatives of persons sick of cholera, those convalescent from premonitory diarrhoea, cholera porters, nursetenders, and others connected with the hospitals, unable to restrain their curiosity, were everywhere mixed up, and brought into the closest contact with those who had been previously healthy. At Kingstown, the attraction of the royal squadron brought visitors from all quarters; and as cholera had previously existed both in Kingstown and the adjacent villages, the same causes as in the city were likely to give rise to a more extensive dissemination of the disease. The fears expressed were but too soon realized, for the disease spread far and wide, in Dublin, Kingstown, and in many districts of the country before unaffected, in the week following Her Majesty's embarkation. As a proof of the danger of bringing crowds together during the existence of a contagious disease, I need only refer to the report of the plague of Milan in 1630, translated and abridged by Michael Donovan, Esq., from the Italian of Manzoni, and published in this Journal in August, 1849(a).

It is worthy of being recorded, that a terrific thunder storm occurred in Dublin, on Saturday, the 1st of September, 1849. It commenced about 3 o'clock in the afternoon; very frequent and violent electric explosions were followed by torrents of rain, after which the sky cleared about 5 o'clock in the evening. But at 7 o'clock it again became overcast, and a continued deluge of rain poured down from that hour until midnight, during which the rapid succession of the thunder-peals, together with the appalling flashing of the lightning, fearfully recalled to the minds of those who had resided within the tropics, the recollection of one of the awful convulsions of nature usual in those regions. I looked forward with much interest to the effect of this storm on the state of the public health, and was anxious to see whether the common idea, that

(a) Vol. viii. p. 225.

such an event would purify the atmosphere, and diminish the intensity of the epidemic, would in this instance be verified. But no such desired result followed; for the cholera rapidly increased after that day, and reached its maximum in the following week.

- In concluding this paper I beg leave to observe, that my arguments and facts are chiefly applicable to countries where the cholera does not exist as a permanent endemic disease, and are not of the same force when the question relates to parts of the globe, such as Hindostan, where the disease originated, and is constantly present. The progress of cholera in India presents a much more complicated problem, in whose solution this important element ought never be lost sight of(a).

(a) It will be observed that in the foregoing pages I have derived my arguments altogether from facts that occurred in Ireland during the late epidemic; in a future paper I purpose bringing forward additional proofs derived from its dissemination throughout Great Britain and other parts of the world; but I cannot forbear at present from quoting the following apposite remarks which I have just met with, in a paper by Dr. Clark on the cholera as it appeared in Newark, New Jersey, and with which he concludes his observations: "Let us look at our experience in relation to the Alms House. July 15th, 1832, Mrs. M'Laughlin, being attacked with cholera, was removed to the Alms House, in which no symptoms of the disease had appeared. July 16th she died; also her husband, who the same day had been removed, apparently well, from the infected house. On the 19th the disease attacked the inmates with its usual virulence, and deaths followed for some weeks. Overlooking or forgetting that sad experience, or, probably, for the want of a 'Board of Health,' whose duty it would have been to remember a fact of such importance, on the 16th of July, 1849, a man was found upon the road between Newark and New York, while in an advanced stage of cholera, and taken to the Alms House. The result was, of course, the same as if a match had been thrown into a powder mill, or a flaming firebrand placed among a heap of combustibles. The infection took, and thirty-eight deaths followed, including the worthy superintendent. Surely those who maintain that typhus fever is contagious must also put cholera in the same category." —*New York Journal of Medicine*, March, 1850.

ART. IX.—*Case of Pelvic Tumour obstructing Labour, in which the Cæsarean Section was proposed; with Observations.* By ROBERT SHEKLETON, M. D., F. R. C. S., one of the Presidents of the Obstetrical Society, and Master of the Lying-in Hospital.

[Read before the Obstetrical Society, Session 1849-50.]

THE following case, to which the attention of the Obstetrical Society was drawn at its first winter meeting of last session, was deemed of such peculiar interest, involving as it did, in its history and results, a question of such practical importance that its publication in the pages of this Journal has been since solicited. In the annals of obstetric practice there is, perhaps, not one that was more satisfactorily recorded by the different gentlemen under whose care the patient had fallen in her various confinements, in this institution; and the information thus obtained, and transmitted to each succeeding attendant, afforded the most useful data on which to ground the treatment with the best prospect of success. Its fatal termination enabled me at the time to lay before the Society the cause of all the difficulties that each had to encounter; but the annexed engraving will delineate pretty accurately the size and position of the tumour, which is now preserved in the Museum of the Lying-in Hospital.

At our ordinary visit on the morning of the 20th July, 1849, our attention was called to the case of Anne Parsons, who had been admitted at 4, A.M. The gentleman on duty reported that he could not discover any presentation, owing to a compact, firm substance filling up the cavity of the pelvis; and on examination this statement was confirmed, and the woman was then interrogated as to her age, number of children, progress of former labours, &c. We elicited from her, rather reluctantly, that she had been delivered five times in this hospital; and it was ascertained from the records of the house that

her first child was dead born, her second was delivered by the crotchet, the third was acephalous, the fourth was extracted by the crotchet in December, 1841, and her fifth by the same means in January, 1846, three years and a half ago. The observation appended to her name in the year 1841 was:—"There is a large tumour of bony consistence growing from the back part of the pelvis, filling up the cavity all to a small space, through which the child was, with much difficulty, extracted." In 1846 the pelvic tumour was described as being of such magnitude and density as to convey the same sensation to the finger of the examiners as the foetal head, after it had cleared the os uteri; and Dr. Johnson (then Master) was of opinion that it had enlarged considerably since her last confinement in 1841. The details of the delivery of 1846 resemble so closely the history I have to give of the present one, that I shall merely now state that the head was perforated, after a labour of fourteen hours, with no great difficulty; but it required two hours of active, unremitting exertion of three gentlemen to drag it through the pelvis; nor was this effected till after the entire calvarium had been removed, so that, when the extraction was finally accomplished, nothing remained of the head but the face and base of the skull. Notwithstanding the prolonged pain and suffering she underwent on that occasion, the pulse never flagged during the operation, and her convalescence proceeded so favourably, that she was able to return home on the ninth day.

This history put us in possession of all the particulars of her last and former confinements, and awakened us to a sense of the dangers of her present position. She was about thirty-five years of age, strong and healthy. She stated that she had been in labour since 11 P.M. the previous evening, and that there had been some dribbling of the waters before her admission. On examination at 9 A.M., a large, unyielding tumour was found to occupy the whole cavity of the pelvis, with the exception of a space immediately behind the pubis, which barely admitted the passage of one finger between it and the

tumour, while to the right this space was somewhat larger, owing to the position of the tumour being more to the left side. Neither the os uteri nor the presentation could be ascertained. On examination of the abdomen the uterus appeared to lie obliquely, with its fundus inclined to the left hypochondrium, and its cervix pushed into the right iliac fossa, where the head of the child could be felt, hard, round, and slightly moveable, resembling very much a tumour, for which, indeed, it was for a time mistaken. The foetal heart was distinctly audible about one inch below the umbilicus, in a line towards the centre of Poupart's ligament, and the placental soufflet was detected near the fundus.

On weighing maturely in my own mind all the circumstances of the past history and present state of this case, namely, the extreme straitness of the passage through which the child had to pass, even in the most mutilated condition, as proved by the immense amount of difficulty that was experienced in her last confinement, and which might naturally be expected to be augmented by an increase of growth in the morbid structure since that time,—the strength and vigour of the child, as evinced by the stethoscope, and the certainty of its being the fifth sacrificed to the mother's chance of recovery,—the woman's naturally healthy constitution, guaranteed not only by her present state, but, to a certain extent, by her wonderfully rapid recovery on the last occasion,—the short time she was in labour, and the uterine pains being as yet neither very vigorous nor distressing, with a tranquil state of mind, great fortitude, and a pulse but 74,—all these circumstances, I say, affording presumptive evidence that this was a case in which the Cæsarean section might be performed most legitimately, and with the greatest prospect of success,—I summoned a consultation for 12 o'clock, of the ex-masters of the hospital, Doctors Collins, Ivory Kennedy, and Johnson, and Sir Philip Crampton, its surgeon, and in the interim prepared a small ward well

adapted for the operation, and had everything requisite for its performance ready before the hour appointed.

Dr. Collins' engagements obliged him to come at 11 o'clock, and after a minute examination he thought he could feel the os uteri. At 12 the other gentlemen arrived. Dr. Kennedy, after a lengthened manipulation, discovered the os uteri, which by this time had become dilated, as well as he could judge, to the extent of half-a-crown, with the head resting on the crest of the pubis. Dr. Johnson thought the tumour had not increased in size since the woman was last under his care. Sir Philip Crampton examined, but expressed his unwillingness to give an opinion in a case so purely obstetric. It was then arranged that, as Dr. Collins could not attend till half-past 3, P. M., an adjournment to that hour should take place, the woman in the mean time to be kept quiet, and have an emollient enema.

At half-past 3 the same gentlemen met, with the exception of Dr. Johnson, accompanied by Mr. Cusack, Professor Harrison, Mr. Hamilton, Drs. M'Clintock, Hardy, Denham, &c. The pains since morning had become strong and frequent, recurring every three or four minutes; the pulse had risen to 100, and was full. On examination now it was ascertained that a small segment of the head could with some difficulty be reached, just sufficient to enable the perforator to be used; and the majority of the accoucheurs considering the possibility of perforation, and the great success that had attended the former deliveries as regarded herself, were of opinion that the head should be lessened, and time given to try how far the uterine efforts (which were now vigorous) might mould the collapsed bones to the space through which they had to pass. Feeling the great responsibility that would attach to me individually, if I acted in accordance with my own views of the case, in opposition to the judgment of such sound and experienced practitioners, and failed in an operation which they

deemed ineligible, I at once determined on yielding to their decision, and undertook the task of carrying it into effect. Accordingly, I introduced the perforator, and made, as far as the space would allow the handles to diverge, the ordinary crucial incision. Judging that the crotchet would enable me to use more freedom in breaking up the cerebral mass, I substituted it for the perforator, and in a short time evacuated a large portion of the contents of the cranium. Five o'clock having now arrived, we adjourned till 7, when Drs. M'Clintock and Denham, who assisted Dr. Johnson at the last delivery, and knew all the particulars of the case, most kindly afforded me their valuable aid, in addition to Dr. Hardy and Drs. Sibthorpe and Johnston, my own assistants.

On examination now I found to my surprise and regret that the left arm of the child had fallen into the narrow space in the vagina, and no effort of mine could return it, nor could a finger be passed up at the side of it to ascertain the position of the head; it was, therefore, evident that the case had become seriously complicated by this untoward change of presentation, and that no alternative was left but to separate the arm from the body, eviscerate the child, and deliver as best we could with the crotchet. Accordingly the instrument was fixed in the axilla, and such traction employed, that at length the arm gave way, bringing with it the scapula of that side. By degrees the whole of the thoracic viscera, the ribs, and the contents of the abdomen, were torn away, and finally the spine was unintentionally divided in the middle, and many of the vertebræ were extracted separately. After various attempts and failures two crotchets were at length firmly fixed in the foetal pelvis, and, by the united alternate efforts of myself and friends, we at length succeeded in dragging the lower extremities through the os externum, and with them the right arm, attached by a strip of integument and torn muscles. In this stage of the operation the funis got entangled in the crotchet, and the placenta came away with it in our efforts to extract the extre-

mities, but no hemorrhage ensued. A most perplexing and difficult operation at all times, but especially so in the present instance, still remained to be performed, namely, the extraction of the child's head. In despair of finding any means by which to fix it at the brim, and grip it by the crotchet, I introduced my fingers into the vagina, and there, to my surprise and satisfaction, found the stump of the dorsal vertebræ, with small portions of ribs attached, which I instantly secured, and firmly held till the crotchet was fixed at the back of the ear externally, and the head extracted by Dr. Denham with extreme difficulty, and in a much more flattened form than the engraving here represents. Thus ended the mechanical efforts by which delivery was at length effected, which occupied upwards of three hours at our last sitting, and which exhausted the strength and depressed the spirits of myself and friends on the occasion. And here I cannot but express how sensibly I felt, with an experienced author, "that the whole difficulty of delivering a child through so contracted a space can scarcely be conceived by one who has not been engaged in such an operation himself. The constant and perplexing apprehension of injuring the mother, either with the instruments employed, or with the sharp and ragged edges of the bones, involves the operator in the most painful and unremittent attention and watchfulness, which alone, when long continued under compulsion, is a real torture. The confusion also in the parts arising from the ragged remains of the cranium, or other portions of the child, is likewise a source of great embarrassment." But to return. It were well if the painful part of the scene had here terminated, and that we could, with even a gleam of hope, have looked forward to so happy a termination as resulted from



the last delivery; but such was not to be. Till within about twenty minutes of the final step in the operation, the pains appeared strong and energetic, aiding our efforts at delivery, but now a great change was manifest in the poor sufferer; vomiting set in; the pulse became weak and rapid; brandy and other stimulants were freely administered, without effect; the surface was bedewed with cold perspiration; she ceased to complain, except by subdued moans and sighs; in short, death was depicted in her countenance; and in ten minutes after the head was extracted, Anne Parsons breathed her last.

Autopsy.—Eleven hours after the scene thus detailed an examination of the body was made, and the causes of delay and death were clearly and satisfactorily portrayed. The uterus was lying at the right side of the abdomen, with its fundus reaching a little above the umbilicus, giving it the appearance of unusual bulk, but this was evidently owing to the entire organ being in the abdomen, instead of its lower third having sunk into the pelvic cavity, as in the ordinary state, immediately after parturition. The structure of the body was firm and thick, but towards the cervix and as it appeared flattened and much thinned in its structure, and was projected forwards by the fundus of the tumour which occupied the left iliac fossa. The Fallopian tubes and ovaries at either side were healthy. The bladder was small and closely contracted. The peritoneal covering of the anterior abdominal parietes was much injected; there were, however, no other signs of inflammation, if this could properly be called one. On lifting the fundus of the uterus forwards, a quantity of blood, with small portions of foetal brain, was seen. This, no doubt, escaped from the perforation in the cranium in the first stage of the delivery, and ultimately made its way into the cavity of the peritoneum through an extensive laceration which was now discovered. This laceration occupied the posterior wall of the uterus, was about five inches long, running obliquely from the right downwards through the cervix uteri and upper part of the vagina, involv-

ing the vagina, however, in the largest portion of its extent. Blood was extravasated between the peritoneum and posterior abdominal walls. The rent in the peritoneum covering the uterus was rather more extensive than that of the structure of the uterus itself, from which, to some extent, the peritoneal tunic was separated by coagula. Thus far as concerns the immediate cause of death, but the tumour, the primary cause of all, remains to be noticed. The cast which the engraving represents was unfortunately not taken for some days after death, when the tumour had shrunk in its dimensions, neither reaching so high nor so far into the right side of the pelvis as it did during its vitality. It was a large, firm tumour, nearly filling up the entire aperture of the true pelvis, except a very small space on the right side, which space was evidently much enlarged by the great pressure to which the tumour was so long subjected during the operation. It was of a pyriform shape, and extended from near the point of the coccyx to the superior brim of the false pelvis. It was found to be immoveably fixed in its situation, being firmly united to the periosteum (except at its fundus and superior part of its anterior wall) and to some of the left sacral nerves, one of which appeared to enter into, and to be lost in its substance. A portion of the anterior wall of the sacrum had been absorbed, and a part of the tumour had extended into the sacral canal, and lay anterior to the cauda equina. The rectum was pushed completely out of its natural position, and lay in the right side of the pelvis, free from pres-

sure. On cutting into the tumour directly from above downwards, it was found to be very fibrous and solid throughout, except at its fundus, where there was a small cyst, lined by a fine vascular membrane, and containing about four drachms of a reddish serous-looking fluid. This cyst, as well as a smaller one, containing about one drachm, near its apex, was not discovered till after death; every part of the tumour within reach feeling so firm and resisting to the touch, that it was thought by all to be of bony origin and structure.

My chief object in bringing this case before the Society was to elicit an opinion as to the propriety of having recourse to the Cæsarean section, in cases similarly circumstanced with the one I have just related. Fortunately for mankind, they are few and far between in the practice of any one individual; but it were well if men's minds were prepared for such emergencies when they do encounter them, and that they could feel they have the sanction of the profession for performing the operation, when, humanly judging, it holds out the best prospect of the preservation of life to one, if not both of the parties interested. It is to be regretted that the black catalogue of unsuccessful operations that unfortunately attended the operation for many years had so enslaved men's energies and judgment, that they dreaded to undertake the performance of it, for fear of adding to the melancholy list; and to the present day even, many are so wedded to early impressions, that they still look upon it as sealing the death-warrant of an unfortunate patient, and the perforator and crotchet are preferred.

Of late years, however, cases of recovery have multiplied, and men are beginning to inquire into the causes of former mortality, and to be disposed to believe that, if the operation be undertaken early, on a patient in good health, and *before* symptoms of constitutional disturbance set in, if it be dexterously performed, and the after-treatment be conducted with judgment, a fairer prospect of success may be anticipated than the annals of former years have transmitted to us.

If it were permitted to finite man to foresee the results of the practice pursued in the treatment of many of the diseases that "flesh is heir to," there is no one, I am sure, amongst us who would not at times (if granted the opportunity) adopt a different course from that which he had individually found to be so unsuccessful; and for myself I have to regret that in this instance, as well as in another equally unfortunate, which I read to the Society(*a*), I was not endowed with the faculty of thus discriminating unforeseen results; for assuredly, if I had, both these patients would have been submitted to the surgeon's knife, and I may venture to affirm now, with almost certain preservation of life to the children, and a better chance of recovery to the mothers, than the result in these instances unfortunately proved.

(*a*) This was a case of perfect occlusion of the vagina, the result of a former delivery, occurring in a healthy young woman's second pregnancy, the first being eight years before. On making an examination at the time of labour, the finger was arrested, about one inch within the vulva, by a firm, pursed-up, cartilaginous-feeling septum, composed of strong fibrous bands, as if a ligature had been tightly tied round the vagina, and neither bougie nor probe could detect the smallest opening. The child was alive and vigorous. Labour went on for twelve hours before a small opening was discovered, through which a bougie was passed, and then the blades of a long dressing forceps. By diverging the handles of the forceps the opening was gradually, but painfully, enlarged, sufficiently to admit the fore-finger to the second joint, when the os uteri was found dilated and the head presenting. Three hours after this, the labour pains, though strong and frequent, made no impression on the opening, which remained hard, cartilaginous, and cylindrical, with the head resting above it. In two hours more, no advance being made, nor sign of further dilatation, the edges of the opening were carefully and freely incised by a button bistoury till three fingers were admitted, when the head descended, and a scalp tumour gradually filled the space. There it remained, however, till the violence of the pains threatened rupture of the uterus, when the head was lessened and allowed time to collapse. After three hours more of fruitless patience, the pulse becoming quick and the belly tender, with fixed acute pain behind the pubis, the crotchet was introduced, and, with very great difficulty, the head extracted; but rupture of the uterus was the consequence, and she died in thirty-six hours after delivery. A rent, one inch and a half long, corresponding to the fixed pain, was found at the junction of the os uteri and vagina.

In the certainty, however, that it will not fall to the lot of man to be blessed with so precious a gift, it is our bounden duty to watch attentively the reports of cases of Cæsarean section, and to hail with satisfaction any improvement or suggestion that would tend to lessen the mortality that has so long attended the operation.

Since this case occurred in our hospital, a pamphlet was sent to me by Dr. Radford, of Manchester, detailing a successful case of Cæsarean section, under circumstances far less promising than those of either of the cases now related. The woman was in slight labour three days, the membranes ruptured, but the waters only partially evacuated; pulse 120; great deformity of the pelvis; widest diameter at the brim did not exceed one inch and a half. She had been delivered naturally of her first four children, when she was attacked with mollities ossium, which caused her present deformity. Both she and her child were saved. Dr. Radford relates another case treated with equal success. Of five women he saw operated upon, two and their two children survived. To show the ill effects of delay, he states that one of the three woman who died was thirty-six hours in labour; her pulse was 150; there was great tenderness of the belly, thirst, furred tongue, &c., before the operation; with a dead child. Another was in labour twenty-two hours with membranes ruptured, pulse 130, great tenderness of belly, thirst, furred tongue, &c.; child alive, but destroyed by being seized round the neck by the incised uterus. The third was fifty-three hours in labour; membranes ruptured fifty hours; abdomen tender; pulse 130; bowels confined; frequent vomiting; the intestines were found inflamed at the time of the operation, and there was a putrid child. Thus in these three fatal cases the cause of death may with justice be attributed more to the constitutional disturbance at the time of the operation than to the operation itself. If we are to give credit to the cases of success reported by many of the older continental writers,—some of whom, Roonhuysen for instance, who records the operation as

having been performed by a physician at Bruges seven times on his own wife, six of which she must have recovered; and Bartholin, who tells of a surgeon's wife at Paris, who had been five times the subject of it; and Roussett, who knew it to be six times performed on the same woman,—we must conclude, that the practitioners of Great Britain are mere babes in this branch of obstetric science compared to them. But, if true, we may in some measure account for their success, by the fact of their having had recourse to it, not as a matter of necessity, but of election, and therefore they operated earlier, and under more favourable circumstance, no doubt often unnecessarily, as we could show.

Dr. Churchill has collected from foreign authorities 371 cases of Cæsarean section, out of which 217 mothers recovered from the operation, and 154 died; but perhaps not all these from the operation itself. Out of 189 of these cases, where the results to the children were given, 139 were saved, and only 50 lost.

Now, out of fifty-two cases reported by British and American practitioners (as recorded in the second edition of Dr. Churchill's *Practice of Midwifery*), fourteen mothers only were saved, and thirty-eight died. This difference in mortality can only be accounted for by the delay in the operation, for most of the unsuccessful cases were days in labour:—one twelve days; others ten, eight, seven, three, &c.

I had written these observations thus far, when Dr. Meigs' work on "*the Science and Art of Obstetrics*" was placed in my hands; and on turning over its interesting pages, I happened to find the details of a case resembling in so many respects the one I have just described, that I could not avoid stating briefly the particulars to the Society. It is most minutely and interestingly recorded, and reminded me of the case of Elizabeth Sherwood, so graphically described by Dr. Osborne. It was a case of difficult labour, from deformed pelvis, occurring in a lady with her first child. The deformity of the upper strait of

the pelvis was so great (barely two inches in its antero-posterior diameter), that a living child could not possibly pass through it. A consultation was had, and it was agreed to wait some hours to see what effect uterine efforts might have upon its progress. At length it was decided that something should be done: the child was alive and vigorous. "The different methods of proceeding which have been proposed in similar cases were considered, namely, the division of the symphysis pubis, the Cæsarean section, and cephalotomy. The first was deemed inapplicable; the Cæsarean section was thought to be attended with so much risk to the mother as almost to be necessarily fatal, and some of the most distinguished medical men, including Dr. Physic, were decidedly opposed to its performance." "Under the weight of such authority, the Cæsarean section was abandoned, and it was concluded that the life of an imperfect being (still alive and vigorous) should be sacrificed to save the life of a wife and daughter, and that the operation should be immediately commenced by opening the child's head, breaking up the brain, and allowing some hours to elapse before attempting the extraction."

Dr. Meigs states that both he and Dr. Lukens were of opinion that the operation of cephalotomy, if not altogether incompetent to the delivery, would be attended with as much risk to the life of the mother as the Cæsarean section, for it appeared to them impossible that the cranium could be brought through the superior strait without the most violent exertions and great danger of lacerating the cervix uteri and vagina. Cephalotomy, however, was with great difficulty performed, and, like Elizabeth Sherwood, the patient recovered, and was about her usual occupations in three weeks. In two years after, this same patient again fell under Dr. Meigs' care at the full term, having resisted the advice both of himself and Dr. Dewees to allow premature delivery to be induced at the proper time, and now refusing to submit to the Cæsarean section, and again craniotomy was performed. He does not say how

long the operation lasted in this instance, but it was of many hours' duration in the first. It fell to Dr. Nancrede's lot to have the care of this lady in her third confinement; the breech presented, and delivery "per vias naturales" was deemed impossible; but she was safely delivered of a living child by means of the Cæsarean operation, performed by Professor Gibson. In a subsequent or fourth pregnancy, the same operation was a second time performed successfully by Dr. Gibson, in presence of Dr. Meigs and others, and both mother and child were again happily preserved. I have related this case as briefly as I could, merely to show that in this instance the Cæsarean section was twice happily performed as a matter of *election*, not of necessity, for it does not appear that the impediment to her two first deliveries had increased, but her children had to be sacrificed; and the lady, like unfortunate Anne Parsons, would, in all probability, have ultimately fallen a victim to the repeated employment of the perforator and crotchet.

I may be allowed to mention a well-known fact, that in cases of tumours obstructing the passage of the child through the pelvis, there may be a prospect, on being detected for the first time, of their receding into the cavity of the abdomen as the labour advances, as happened to Dr. Beatty in a case which he attended, and in which it was determined to have performed the Cæsarean section, if so fortunate an event had not taken place; and many similar cases are on record, as well as of tumours being sufficiently reduced in bulk, by puncturing, to admit of the passage of the child immediately afterwards.

In the present case, however, no such cheering prospect was in view, for repeated deliveries had proved the immobility of its attachment, and the solidity of its structure. In cases of occlusion of the vagina also, such as I have related in the note at page 296, and to which I could add another in my own practice, how often does it happen that rupture of the uterus takes place, even by the efforts that nature makes to overcome the obstacle. In one case that occurred in the practice of a former

Master, rupture took place while he held the scalpel in his hand, ready to divide the stricture; in another, where the face presented, the bands were divided carefully in two places, yet rupture was the result.

I shall not extend these observations further, but conclude by expressing my belief, that if all such cases of fatality, where the perforator and crotchet are employed, were fairly and truthfully reported to the profession (and they are not), they would soon lead to such practical statistics as must settle the question of the comparative value of the Cæsarean section and craniotomy in cases of extreme deformity from any cause.

ART. X.—*On Mortification of the lower Limbs, consequent on Valvular Disease of the Heart.* By JOHN H. POWER, M. D., Surgeon to Jervis-street Hospital, Lecturer on Surgery in the Carmichael School of Medicine, &c.

It occasionally becomes as much the painful duty of the physician or surgeon to place upon record those melancholy examples of disease where medical or surgical treatment can effect but little in relieving the sufferings of the patient, as those more pleasing instances, in which the agents employed have proved successful. I regret to state, that the case I am about to describe belongs to the former class. From the nature and duration of the primitive disease, as well as from the consecutive affection, there remained no hope of any permanent amelioration of the symptoms.

Amongst the various and numerous causes of gangrene of the lower extremities, valvular disease of the heart has been frequently observed; and as, in cases of this description, the gangrene is not merely a local affection, but symptomatic of permanent lesion of so vital an organ as the heart itself, the most serious termination must necessarily be apprehended. The following case will serve to illustrate the fact, and its relation may, at the same time, prove interesting in a patholo-

gical point of view. I am indebted to Mr. Dyas, the resident pupil of the hospital, for his attentive observations and record of it.

James Collon, aged about 42, a native of Cumberland, commander of a collier, was admitted into Jervis-street Hospital on the 19th of August, 1848. I saw him, in company with my friend Dr. Seymour, a few hours after his admission. Both his legs were in a state of gangrene; the toes of the right foot were completely sphacelated, of a dark brown colour, quite cold, and without sensation; the sphacelus had extended for some distance upwards towards the foot. The toes of the left foot were also sphacelated, but not to the same extent. In both legs the integument above the parts absolutely dead, was of a green colour; bullæ of various sizes, filled with a reddish and yellowish serum, were scattered over the surface, and both legs were cold. Immediately above this, the skin presented the blush of erysipelatous inflammation. The pain was intensely severe, and of a remittent character. The gangrene had extended more upon the left than upon the right leg; both were œdematous. There was pulsation in both femoral arteries, similar in character to the pulse at the wrist. The patient was able to move the foot upon the leg with tolerable freedom; from this he experienced no pain. Any pressure made upon the gangrenous parts produced no sensation whatsoever, whilst pressure on the red surface above this caused considerable pain. He appeared greatly exhausted, and felt extremely weak and low; the heart's action was rapid and tumultuous, its pulsation, as well as we could count, amounted to 140 in the minute; there was a prolonged bruit de soufflet which obscured the second sound of the heart; the pulse at the wrist was weak, feeble, and intermitting, and did not exceed 90 in the minute; dyspnœa distressing; orthopnœa. There was almost total loss of rest, and whenever he did doze, he was disturbed by severe twitchings of the muscles of the lower limbs. Nocturnal perspirations profuse. Tongue loaded, and,

when protruded, tremulous; bowels constipated; urine scanty and high-coloured.

The patient states that from the age of 14 he has been a "martyr" to acute rheumatism of the joints, from which he says he never perfectly recovered; from that time he complained of palpitations of the heart. At the age of 21 he had a severe attack of rheumatic fever in Liverpool; the palpitations of the heart were then particularly violent; the dyspnoea also was most distressing, and he was unable to lie down in bed. He was bled from the arm on that occasion, to a considerable amount. He was at the time told that he had disease of the heart, and "that he should take care of himself." He disregarded the caution he had received, and continued at his occupation, which was that of a sailor. He has since had frequent attacks of rheumatic inflammation. He had on his admission a seton over the præcordial region, which he states had been inserted some years back. About a fortnight before his admission into hospital, he was sitting in his cabin with some friends, when he experienced a most extraordinary sensation "coming over his legs;" in the right particularly a sudden numbness commenced at the great toe, then he experienced the same in the great toe of the left leg, and before he could get his stockings off, the toes of both his feet were quite destitute of all sensation. He felt greatly alarmed, got his feet well rubbed and bathed in warm water. Shortly afterwards sensation returned into the left leg, and then into the right, but its restoration into the latter limb was accompanied by the most excruciating agony. On the third day after this he noticed the toes of the right foot becoming blue; vesicles then made their appearance upon them; the same took place shortly after upon the toes of the left foot; and thus the gangrene became fully developed in both limbs.

After a careful investigation into the symptoms of the affection of the heart, I felt convinced that the mitral valve was the seat of the disease, and that there was an attendant con-

traction or narrowing of the left auriculo-ventricular aperture. This disease has been admirably described by Mr. Robert Adams of this city, in the fourth volume of the Dublin Hospital Reports; and I believe he was one of the first to direct the special attention of the profession to the particular alteration which the aperture undergoes in consequence of thickening of the mitral valve. Scarcely any change occurred in his symptoms from the time of his admission into the hospital, except the occasional relief he experienced from the exhibition of medicine, and other necessary stimulants. On the 26th, however, his strength failed most remarkably; and on the 27th, that is eight days from the date of his admission, he sank.

From the advanced stage of the symptoms, both constitutional and local, it is obvious that very little could be done for the patient, except merely to afford alleviation from his sufferings, and at the same time to support his strength. The treatment, therefore, consisted principally in the exhibition of morphia, without which he could procure neither rest nor any ease from pain; the state of exhaustion from which he suffered was relieved by the exhibition of ammonia, both in the form of the carbonate and the aromatic spirit, together with wine and strong beef-tea; warm fomentations and emollient poultices were kept constantly applied to the legs, and from these he experienced comparative ease.

Examination of the Heart after Death.—On opening the pericardium it was found that an effusion of coagulable lymph had agglutinated the anterior surface of the right auricle to the anterior part of the pericardium. A considerable deposit of fat was collected around the line of junction between the auricles and ventricles, and along the line which indicates the situation of the anterior margin of the septum ventriculorum. The heart was preternaturally enlarged, both the auricles and the left ventricle, being more particularly increased in size; the apex of the heart was more rounded than usual; the right ventricle

was rather smaller and thinner than natural; the right auricle was enormously dilated, and its muscoli pectinati greatly hypertrophied; the right auriculo-ventricular opening was largely dilated, and, during life, must have admitted a free regurgitation of the blood from the ventricle into the auricle. The left auricle was largely dilated and hypertrophied; the lining membrane strikingly contrasted with its ordinary appearance and structure in the healthy state; it was yellow, perfectly opaque, thick as kid-skin, strong, and tough. I was able to detach it by dissection from the subjacent muscular structure, and then to peel it off from these fibres, by means of the fingers, with tolerable facility, except in one particular situation, which corresponded to the upper part of the auricle: here the endocardium was firmly adherent to the muscular structure, which itself presented an unusually yellowish colour. At this spot, which was about an inch and a half in length, and half an inch broad, the surface of the endocardium which corresponded to the cavity of the auricle was covered with coagulable lymph, which maintained a firm adhesion to a large fibrinous clot that almost filled the cavity of the auricle: in fact this clot may be said to have formed a tolerably correct cast of the auricle, for it nearly filled its entire cavity, and even sent prolongations into the pulmonary veins. The clot could be most easily turned out of the cavity were it not for the adhesion it formed to the spot of the endocardium already described; here it was so firmly adherent that a kind of areolar structure had to be torn through in order to its removal. This was the only rough portion of the endocardium, and in its length a long and slender blood-vessel was seen ramifying upon the surface connected with the clot. All these appearances, with the exception of the small blood-vessel, are well exhibited in the preparation in the Museum of the Carmichael School of Medicine. When I opened the cavity of the left auricle, the knife entered the clot, and a quantity of puriform fluid immediately gushed out; the interior of the clot in which this fluid was contained presented

the appearance of a cavity, not lined, however, by any membrane, but of a rough and irregular character.

The left ventricle was hypertrophied, and its cavity dilated; the auriculo-ventricular opening was so small as to be capable of admitting the introduction of the point of the little finger merely; it was funnel-shaped and patulous, so that during life it must evidently have admitted of a certain amount of regurgitation into the auricle. The mitral valve was rigid and remarkably thickened in its structure. The endocardium where it contributes to form this valve, was thick and firm; and the tendinous structure interposed between its layers was enormously hypertrophied, so as nearly to resemble cartilage. This thickened and rigid condition of the valves gave rise to the altered condition of the opening, and converted it into a funnel-shaped, patulous orifice, which passed downwards for some distance into the interior of the ventricle. This latter cavity, together with its altered mitral valve, very much resembled those oval ink-bottles which contain within them a narrow glass funnel for the purpose of preventing the ink from being spilled.

The bronchial tubes and air-cells were filled with a large accumulation of frothy mucus. The aorta, the iliac, the femoral, the profunda, and the larger branches of the arteries of the legs, were carefully examined; there was not in any one of them a trace of inflammation. All the arteries appeared to be smaller than natural, and the coats of the aorta, iliacs, and femoral arteries were much thinner. The only arteries which contained coagula were the popliteal and the anterior and posterior tibial arteries, but the coagula were not adherent to the lining membrane.

Amongst the various causes of gangrene, organic disease of the heart is one with which practitioners of the present day are pretty generally acquainted, and to which writers have made frequent allusion. In speaking of the causes of gangrene Dupuytren remarks :—" Lorsqu'on examine les individus affectés

de gangrène symptomatique, presque toujours on trouve qu'ils ont fait abus des liqueurs alcooliques, des mets stimulans, ou qu'ils ont été atteints de *maladies chroniques du cœur*"(a).

Dr. Carswell, in speaking of mortification as the result of a mechanical obstacle to the circulation of the blood, observes, that it may be caused "by diseases of the heart which greatly obstruct or prevent the return of the venous blood to this organ. The physical characters of the present form of mortification, when succeeding to disease of the heart, are nowhere so conspicuous as in the inferior extremities, and may be regarded as furnishing us with an accurate view of those which accompany the same disease when produced in a similar manner in internal organs. The first local sign that an obstacle exists to the return of the venous blood from the inferior extremities is manifested by the appearance of slight œdema around the ankles. The serosity gradually accumulates in those parts, spreads from thence throughout the cellular tissue, beneath the skin and between the muscles; the feet, and afterwards the legs, thighs, &c., become swollen; the skin assumes a smooth and glossy aspect, feels tense, and sinks into the cellular tissue when pressed, and does not resume its former shape and situation till raised by the return of the serosity beneath it. The colour of the skin, at first natural, becomes pale and waxy, and may continue in this state during the greater part of the course of the disease. When discoloration of the skin is about to take place, it is seen to depend on the presence of subcutaneous veins, which gradually increase in bulk and number, coalesce in several points, and communicate a slightly mottled aspect to the skin, of a dull red or purple colour. On one or more of these points, where the congestion is greatest, and where the skin is less yielding, as over the tibia and above the malleoli, phlyctenæ or large bullæ are formed by the effusion of serosity, either alone or mixed with blood, under the cuticle. When these

(a) *Leçons Orales*, tom. iv. p. 483.

burst, the cutis beneath presents a dark red or brown colour, and very soon is converted into a dirty yellow or ash-grey slough. The separation of the slough is sometimes preceded by an increase of redness in the surrounding cutis, which, from its anatomical characters, and the increase of temperature and pain by which it is accompanied, is obviously of an inflammatory nature. At other times the redness which precedes or accompanies the separation of the dead part is very slight, and is evidently owing to mere venous congestion, occasioned not only by the disease of the heart, but also by the serosity accumulated in the cellular tissue of the limb, which, from the pressure which it occasions, further retards the return of the blood, and aggravates all the symptoms of the disease. It is, indeed, to this secondary obstacle to the return of the venous blood of the limb that the termination of the disease in mortification is chiefly to be attributed. It is likewise in consequence of the accumulation of serosity beneath the skin that the state of congestion of the venous system of the limb is not at first perceived. Congestion, gangrene, and sphacelus may take place on several parts of the leg, but they are in general limited to the parts which have been noticed, *and rarely occur on the feet or toes*"(a). The case I have now narrated is, however, an example of gangrene, commencing, not, as has been already remarked, upon the integument of the leg, but on the toes of both feet. I have observed, in common with others, instances of organic disease of the heart attended towards their fatal termination, with the formation of gangrenous patches on the integuments of the lower extremities, already distended nearly to bursting by the effusion of serum underneath the skin; but the extensive destruction of parts which occurred in the present instance forms rather a peculiar and interesting feature in its history.

In the *Lancet* of the 15th of June last, a very interesting

(a) *Illustrations of the Elementary Forms of Disease*, Art. "Mortification."

case of dry gangrene of the foot is recorded by Mr. Clark. The patient was an inmate of St. Thomas' Hospital; he had been addicted to the immoderate use of ardent spirits; he died about seventeen days after admission. In the *post mortem* examination the heart was particularly attended to, and the writer states that nothing was found there "save a fibrinous clot of an irregular cylindrical form, *which was firmly and inseparably adherent to the lining membrane of the left auricle*, about half an inch above the attached border of the mitral value. The upper part had a clear, amber-coloured, transparent appearance, and was traversed by delicate bands of fibrous tissue entering it at its base, and continuous with the lining membrane of the auricle."

I would wish to avoid generalizing from the results of a single case, but I cannot help thinking, that in many of the cases of gangrene of the toes, such as those described by Mr. Pott, or of the fingers, as described by the late Mr. Colles, the condition of the heart should attract more particular attention than it has heretofore received.

Before concluding, I would wish to offer a few remarks upon the subject of "polypi of the heart," as relating particularly to that description of case which I have recorded. A good deal has been written upon those "concretions," or coagula contained within the cavities of the heart. The subject has received a considerable share of attention in the writings of Hodgson, Burns, Bertin, Bouillaud, Dr. Hope, and in those of Mr. Adams and Dr. Bellingham of this city. These bodies are more frequently found in the right than in the left side of the heart, and in the auricles than in the ventricles. They may form in the heart during life or after death. Dr. Hope recognises three kinds:—1, *The unorganized*; 2, *The slightly organized*; and 3, *The more completely organized*. The first are formed after death, or during the last moments of life, and are more common at the right than at the left side of the heart; they do not adhere to the cavities which contain them. According to Dr. Hope, "the polypi formed some time before death are of a

much firmer consistence, more opaque, and less charged with serum. They are found more frequently on the left side of the heart than recent polypi are; and they adhere more or less firmly to the walls of the heart, from which it is scarcely possible to draw them away in a single piece, as the extremities remain attached under the columnæ carneæ. The medium of adhesion is often a filamentous tissue, the rupture of which leaves a roughness both on the lining membrane of the heart and on the surface of the polypus. Some of these polypi contain pus in the centre, sometimes pure, at others curdy or sanious, precisely what we so commonly see within coagula formed by phlebitis”(a).

Cruveilhier has made the following observations upon this subject:—"The theory of the formation of purulent bloody coagula in the heart appears to me explicable by that of the formation of purulent coagula of the veins and arteries. In these, as in the heart, it is always in the centre of the bloody coagulum that the pus is found; but no one that I know has regarded the arterial and venous pus as being the result of the inflammation of the coagula adhering to the vascular parietes. They have said, that this pus has been the product of the phlebitis, without embarrassing themselves with the question how the pus, instead of being interposed between the vein and the coagulum, as one would have thought *à priori*, constantly occupies the centre of the latter; but if this circumstance of the seat of the pus in the centre of the clot were proposed as a difficulty to the theory of the production of pus by the inflamed vascular parietes, I answer in reply, that nothing prevents the pus secreted by venous parietes from traversing the coagulum, and depositing itself in its cells." Again :—"Analogy leads me then to admit, that these purulent coagula of the heart depend upon *the inflammation of its internal membrane*, but only at the points of adhesion; that the central pus

(a) Hope on Diseases of the Heart, 4th ed, p. 498.

of the coagula has its origin in the internal membrane of the heart"(a). Such is the explanation offered by Cruveilhier.

I believe it will be admitted, that, under certain conditions, coagulated blood in an extravascular state has been known to undergo changes nearly identical with those which take place in a mass of coagulable lymph. Thus, for example, in portions of extravasated blood, the fibrine of the coagulum has been observed to undergo a process of regular arrangement denoting the incipient stages of structural formation; and in a remarkable instance of this description, Mr. Dalrymple has observed the fibrous elongations of the normal white corpuscles as preparatory to their final arrangement and conversion into tissue. All this surely denotes something more than a mere chemical or mechanical separation of the elements of the blood. The phenomena are more or less indicative of vitality, and tend to confirm the ingenious and original views of John Hunter upon the vitality of the blood. These facts prepare the mind for conceiving the possibility of the formation of purulent matter in a mass of coagulated blood; and serve, in some degree at least, to explain how it is that such a degeneration of its constituent elements may take place, as to convert them into that aplastic substance which we recognise as purulent matter. We know from the experiments of Sir E. Home, that the fluid secreted by the vessels of a healthy sore, though when secreted possessing none of the characters of pus, yet after a short time become converted into that fluid; so that it is not until some time has elapsed after its exudation, that it becomes altered into purulent matter.

The microscopical characters of those collections of purulent fluid, of which I have been speaking, have been ascertained by Dr. Bennet to be identical with those of ordinary pus. He observes:—"In another case of heart disease where two small tumours, the size of filberts, were found attached to

(a) 28me livraison, planche iv., *Maladies du Cœur.*

the mitral valves, I found internally numerous exudation and pus-cells. The character of the latter were determined by the peculiar nuclei which were made apparent on the addition of acetic acid. In both cases it is evident that corpuscles had been formed in the coagulum"(a).

Without, therefore, adopting the opinion entertained by Cruveilhier, that the formation of pus in these coagula depends upon the inflammation of the endocardium, though that may be present,—or the opinion of Legroux and Dr. Hope, that the coagulum itself may become inflamed and suppurate,—I am inclined to believe that, in instances similar to that which has been now under consideration, the formation of the purulent fluid depends upon the disintegration of the normal white corpuscles composing the coagulum, and a conversion of them into pus-corpuscles. The same process, I conceive, takes place in the centre of those coagula which have been so frequently found in the interior of veins.

ART. XI.—*On Intra-capsular Fracture of the Neck of the Femur, with Rotation of the Limb inwards*. By PHILIP BEVAN, M. D., T. C. D., F. R. C. S., &c. Lecturer on Surgery in the Dublin School of Medicine, Surgeon to Mercer's Hospital, &c.

My attention was attracted by a slight rotation inwards of the thigh in the body of a female aged about fifty years, which was received in the school for dissection.

The great toe rested against that of the opposite side; the limb was shortened by about half an inch; the trochanter major was not as prominent as natural, and the fold of the nates was flattened and slightly lengthened.

No other deformity appeared until pressure was made on the heel, when the shortening increased to one inch and a half,

(a) *Treatise on Inflammation*, by Dr. J. H. Bennet, p. 68.

and as the limb became shortened, it rotated inwards of itself to such an extent that, when unsupported by the opposite foot, it lay flat on the inner edge, and if raised from the table a still greater degree of rotation was permitted; in fact, the toe could be made to describe nearly a semi-circle, the heel being thus placed in front and the toe behind. During even moderate rotation the upper part of the thigh had a remarkably twisted appearance. Rotation outwards was permitted to its natural extent, and whilst in that position a projecting line was observed extending from the anterior spine of the ilium to the trochanter major, evidently caused by the tensor vaginae femoris, and the anterior edge of the gluteus medius muscle. Extension and flexion were normal, and no crepitus could be felt, whether the limb was extended or not. As some doubts existed concerning the nature of the accident, accurate measurements were taken, both when the limb was elongated, and when shortened as much as possible by pressing on the heel. In its elongated state, the distance from the trochanter major to the anterior spine of the ilium measured, when rotated outwards, five inches, and, when rotated inwards, three inches and a half. In its shortened state, the distance between the same points measured, when rotated outwards, four inches and a half, and when rotated inwards, three inches, whilst the distance between the same points on the opposite side measured, when rotated outwards, four inches, and when rotated inwards, three inches. Thus the trochanter was more distant from the spine of the ilium on the injured than on the sound side by half an inch in its shortened, and by one inch in its lengthened state. The distance from the trochanter to the crest of the ilium was, in the shortened state of the limb, nearly one inch and a half less than on the opposite side.

From these measurements it appears that the trochanter was placed *above and behind* its natural position, especially when rotated outwards, its distance from the spine of the ilium

being from four inches and a half to five inches on the injured side, whilst it was only four inches on the sound side; the distance of the trochanter from the crest being, at the same time, diminished.

On dissection, the small rotators outwards on the back of the hip, the obturators, pyriform muscle, &c., were found to retain their natural attachments to the digital fossa, and all the other muscles of the thigh were perfectly unaltered, except the anterior edges of the gluteus medius and gluteus minimus, which, especially of the former, were somewhat thickened. I examined particularly the psoas and iliacus and the obturator externus, but could not find any alteration, such as has been observed in other cases of fractured neck of the femur of long standing.

On raising the muscles the capsular and accessory ligaments were perfect, but very much thickened throughout their entire extent. Before opening the capsule, it was observed that, when the bone was pressed upwards, the trochanter major passed upwards and backwards towards the dorsum ilii, and thus rendered tense the anterior part of the capsular and the accessory ligaments. This limited rotation outwards, and gave an inclination to rotation inwards. No fracture was yet apparent, but the free motion of the bone in all directions led me to expect one within the capsule.

On opening the capsular ligament, it was found that the neck of the bone had been entirely absorbed from its head to its attachment to the shaft; the opposite surfaces were transverse and regular, and connected to each other by a few long bands of soft lymph; these were smooth, soft, shining, and totally destitute of a fibrous character. No new bony deposit had taken place, either on the head or shaft, nor was there any fluid in the joint. The synovial membrane was coated with lymph to a great extent, and thus had lost its polished appearance. The head of the bone was lodged in the acetabulum, and scarcely projected beyond its brim. It moved very slightly

when pressed on, which must have arisen from a thickened state of the ligamentum teres, as there were no adhesions between it and the acetabulum(a).

The case was therefore one of intra-capsular fracture of the femur, of long standing.

The occurrence of rotation inwards in cases of fracture of

(a) The wood-cut exhibits the joint laid open from behind, the limb in a state of rotation inwards; the head of the femur is raised as much as possible from the acetabulum, to show its flat surface. B, the head of the femur: its cartilage is absorbed in some places, and shows the surface by which it was formerly connected with the neck; C, capsular ligament, thickened as seen by its cut edges; D, long bands of lymph connecting the head to the shaft; E, pyriform and obturator muscles, cut across, hanging from their point of attachment to the digital fossa; F, gluteus minimus.

the neck of the femur, although doubted by Boyer(*a*), has been seen by so many other surgeons of eminence, that its occasional presence is now generally admitted. Still its cause cannot be said to be well ascertained, and not one of the explanations already proposed would account for it in this case.

Mr. Guthrie has thus explained its occurrence in a case which he dissected:—"The trochanter minor was torn off; the head and neck of the femur were separated from the shaft by a diagonal fracture extending from the upper and outer part of the trochanter major to the trochanter minor, so as to leave the pyriform, the two obturators, the gemelli, and the quadratus femoris, attached to the head and neck; the gluteus medius formed the bond of union at the upper part of the trochanter major, between the broken pieces retaining them in contact"(*b*).

According to his explanation, the rotators outwards being detached from their connexion with the shaft, the rotators inwards were left uncontrolled, and rotation inwards was the result. Mr. Syme has reported a similar case, and offered the same explanation. But their views cannot apply to the present case, as in it the rotators outwards remained perfect, and the fracture was entirely within the capsule.

Dupuytren has met with only two cases presenting this symptom. He attributes it to obliquity of the fragments. But his explanation cannot hold good in the case I have described, as the surfaces were perfectly regular, and nearly transverse.

Professor Smith, in his *Treatise on Fractures*(*c*), expresses the opinion, that the lower fragment is placed in front of its natural position, and that this position probably tends to render the pectineus and superior portion of the adductor magnus rotatory inwards, whilst the position of the superior fragment behind the inferior presents a mechanical obstacle to rotation outwards, the tendency to which is further prevented by the

(*a*) *Traité des Maladies Chirurgicales*, tom. iii. p. 264.

(*b*) *Med. Chir. Trans.* vol. xiii. p. 111.

(*c*) Page 27.

diminution in the power of the small rotator muscles of the hip, consequent upon the fracture of the trochanter. That the insertion of the pectineus and adductors could be thrown so much forwards as to be placed in front of their origin, and become rotators inwards, must be very doubtful; but even such a position would not explain the symptom, as the extreme tension of the gluteum maximus and quadratus femoris would more than compensate for the loss of power of the adductors. But as he is conscious "of the insufficiency of these observations to explain the occurrence of the phenomenon in question in cases of intracapsular fracture," his observations cannot apply to this case.

Mr. Stanley has also narrated a case of intracapsular fracture presenting this symptom. He says:—"A portion of the synovial membrane which had escaped laceration on the anterior part of the cervix, might probably prevent rotation outwards, but why it should have rotated inwards, I confess myself unable to explain"(a).

Cruveilhier has also given a case. He supposes that "*cette déviation dépend, au moins en partie, des rapports que contractent les fragments*"(b). This explanation, unsatisfactory in his own case, would totally fail in the present one.

Malgaigne is equally unsuccessful; he supposes that the limb preserves the direction given to it on the plane of support; and Ekl thought that it arose from the neck of the femur being driven into the shaft in an oblique direction: but neither of the latter theories would apply to the present or many other cases.

In order to explain this phenomenon, I must beg to recall the attention of the reader to the experiment already detailed, namely, on pressing the heel the limb became shortened and rotated *inwards* of itself, and the trochanter passed above and behind its natural position, as proved by measurement, and on

(a) Med. Chir. Trans. vol. xiii. p. 509.

(b) Anatomie Pathologique, livraison xxvi. p. 2.

attempting to rotate outwards, a tense line was observed passing from the spine of the ilium to the trochanter, caused by the tension of the rotators inwards, the tensor vaginæ femoris and glutei muscles. The altered position of the trochanter major, that is to say, its being thrown upwards and backwards, was obviously the cause of the tension of the latter muscles.

To account then for this alteration in position, must be our first object. This will not be difficult if we reflect on the effect which the loss of the neck of the femur will produce on the two orders of rotators.

The rotators outwards may be divided into two classes, the one consisting of the gemelli, obturators and pyriform, inserted into the digital fossa; the other, the adductors, inserted into the inner and back part of the shaft. The former would lose entirely their rotatory power when the neck of the bone was removed, and would draw the trochanter upwards and backwards(*a*); the latter would still retain some rotatory power, but would act chiefly in shortening and adducting the limb; and the combined action of both sets being then very trifling as rotators, their principal effect would be to adduct, shorten, and throw the trochanter upwards and backwards, into the position, in fact, observed in the present case.

The effect produced by the loss of the neck of the bone on the rotators inwards, will be very different, for whilst, on the one hand, they, being inserted into the outside of the shaft, or into the fascia lata on the outer and back part of the thigh, will lose little of their rotatory power; on the other hand, the distance between the spine of the ilium and the trochanter being increased by the altered action of the rotators outward, already described, will throw them, the tensor vaginæ femoris and glutei medii, on the stretch, and thus absolutely increase their power

(*a*) That this would be their action is proved by Case 29, in Dr. Smith's *Treatise on Fractures*, p. 85, where the trochanter major being detached was drawn upwards and backwards by the pyriform, gemelli, and obturator muscles.

as rotators inwards. Thus, in the present case, the neck of the bone being absorbed, the several rotators outwards, above named, whilst they lost the principal part of their power as rotators, carried the trochanter above and behind its natural position; they thus rendered tense the rotators *inwards* and the anterior part of the capsular ligament, and increased their power, so as to enable them completely to overcome the remaining rotators outwards; in fact, the phenomena depended on the altered action of the rotator muscles; the one set lost their proper function, and, instead of it, assisted their former antagonists,—the rotators outwards, and, by drawing the trochanter backwards, indirectly aided the rotators inwards.

This explanation would satisfactorily account for the rotation inwards in Mr. Langstaff's case, where, as long as the patient's limb retained its normal length, so long it was rotated outwards, but as soon as it became shortened by the absorption of the neck of the femur, it rotated inwards(*a*); and in Mr. White's case, where, after removing three inches of the femur, the limb was constantly rotated inwards on the patient's resuming the erect position.

Although this account is best suited to cases where the neck of the bone is removed by absorption, I think it quite possible to extend it to some cases of fracture even without the destruction of the neck. For instance, the shaft might be thrown behind the neck and its natural position; in such a case, the small rotators outwards would be very much relaxed, and thus would, to a certain extent, lose their action, whilst the rotators inwards being rendered tense by the altered position of the shaft, would cause the inversion of the limb.

I am far from supposing that this explanation will apply to all cases where this symptom has been observed; on the contrary, I think it more than probable that, as the fractures differ in site and direction, no one theory will be applicable to all.

(*a*) Med. Chir. Trans. vol. xiii. p. 487.

Mr. Guthrie's explanation will apply to some cases external to the capsular ligament. Impaction will account for it in some cases both internal and external to that membrane, whilst the one I propose will explain either those where the neck of the bone has been absorbed, or where the trochanter has been thrown behind its normal position.

Besides assisting in discovering the cause of rotation inwards, this case appears valuable by showing the difficulty in diagnosing between fracture and luxation on the dorsum of the ilium.

It proves that the diagnostic signs laid down by systematic authors are incorrect, and not to be depended on, viz.:

“ That in dislocation on the dorsum of the ilium, the inversion of the foot is complete, the great toe is turned inwards and rests on the instep of the opposite foot, the limb being two inches shorter.

“ In the dislocation into the sciatic notch, the inversion is decidedly marked, but is not so complete as in the preceding case; the knee and great toe turn in, the latter resting against the ball of the great toe of the opposite foot, and not admitting of rotation outwards. The limb is but little shortened, yet cannot be lengthened without much force.

“ In fracture the inversion of the foot is less complete, the great toe merely turns to the opposite one, and sometimes scarcely does this; the limb is but little shortened, is easily everted, readily moved in almost every direction, and is restored to its proper length by the application of a very moderate extension”(a).

Now two of the most important of these points are contradicted by the present case, for the inversion was greater than in any dislocation, as the foot rested on its inner edge, and the shortening was greater than in luxation into the sciatic notch, and equal to that on the dorsum of the ilium, whilst the tro-

(a) Guthrie, *Med. Chir. Trans.* vol. xiii. p. 114; also King, in the *Cyclopædia of Surgery*.

chanter was placed above and behind its natural position, as in luxation. Thus the only diagnostic signs on which we can rely are the ease with which we can rotate outwards, the greater mobility of the limb, and the power of lengthening it by a moderate force, in fractures, when compared with luxations. I need not insist on the importance of the diagnosis when we recollect that one able surgeon says that his patient died of the effects of repeated attempts made to reduce a supposed luxation; and Professor Smith's twenty-ninth case was mistaken for a luxation(a).

In conclusion I may remark, that, in the subject of the injury I have now described, there was a fracture of the humerus on the same side, partly within, partly without the capsular ligament, with absorption of the bone to the extent of one inch and a half; all the other bones were perfectly healthy. Both preparations are in the Museum of the Dublin School of Medicine.

ART. XII.—*On Chronic Pneumonia*. By JOHN POPHAM, A.B., M.B., Physician to the Cork North Infirmary.

THE pathology of chronic inflammation of the pulmonary tissue is still in such an unsettled state, and it is so difficult to draw the boundary line between induration of the lung arising from slow structural inflammation, and the consolidation which is met with in phthisical lungs from grey tubercular infiltration, that it is important to place on record any case which may throw even a doubtful light upon this difficult question. I venture, therefore, to submit the following, which appears to me to present some points of unfrequent occurrence bearing upon this subject; not with the view of generalizing from a single example, but in the hope that it may stimulate others to give instances of a more decided character drawn from more ample observation.

(a) *Loc. cit.* p. 29.

A woman, named Bridget Callanan, aged 44, was admitted into the Cork Union Hospital, April 14, 1848, with cough and dyspnoea. She was a worn-looking person, with a remarkably sallow countenance, and according to her own account she had been ill for six or seven weeks, daily becoming worse, her occupation as a fruit-seller obliging her to sit during all kinds of weather in the open air. Besides the severe cough and oppression, she complained greatly of palpitation, which caused her such distress that she was obliged to rest after taking a few steps, from a feeling of syncope coming on. On proceeding to examine her chest, my attention was drawn to a visible pulsation which existed a little below the right clavicle, at its sternal end, and which gave a strong impulse to the stethoscope. A double sound, but without any abnormal murmur, was heard over it with marked clearness. The loudness of the sounds diminished as the stethoscope receded from the seat of pulsation, until it approached the heart, when they again became fully audible. The heart, however, was not in its normal place, being felt to beat under and a little to the right of the sternum. The carotid arteries pulsated visibly, but without any bruit. A paroxysm of coughing augmented considerably both the pulsation and the sounds. On percussing the chest, dulness was found to exist from the right clavicle as far as the mamma, below which, for about two inches, the sound was morbidly clear; in this latter space respiration was inaudible, and in the part where the sonoriety of the chest was diminished it could only be heard feebly upon a forced inspiration, except immediately beneath the clavicle, where it was tubular, and the voice very loud and clear. Posteriorly, dulness and deficient respiration existed below the spine of the scapula; inferiorly and laterally, however, the sound became resonant, as it was below the mamma. At the left side the respiration was puerile, and remarkably so under the clavicle. The dyspnoea was persistent, becoming aggravated at times, but attended with little pain. Decubitus was chiefly on the right or affected side.

The cough was constant, the expectoration thin and viscid, and occasionally streaked with blood. Some œdema of the face and feet existed. Her pulse was generally over 100, sometimes rising to 120. It was curious that no loss of energy existed in the digestive organs, her appetite remaining good until a short time before death.

On reflecting upon the symptoms and physical signs of the above case, my first impression was that the disease was tubercular; still there were anomalous features which threw a doubt upon the diagnosis. The stethoscopic signs pointed clearly either to a cavity or a largely dilated bronchus under the right clavicle, and the dulness on percussion over so large a portion of the right side of the chest, and the feebleness of the respiration, approaching in some parts to complete absence, in the subjacent lobes, might be explained by copious and sudden deposition of tubercles. Still the tympanitic clearness in the infra-mammary and lateral regions, unaccompanied by the usual signs of pneumothorax, and the obvious displacement of the heart to the right side, the left lung remaining healthy, presented symptoms not usual in phthisis. Besides, the countenance of the woman had not the expression which often enables the medical physiognomist at a glance to predict tubercle; it had a sallow, greasy kind of aspect, something like the anemic appearance of a person suffering from long-existing disease of the spleen. Another embarrassing symptom was the throbbing under the right clavicle, whether it was to be regarded as aneurismal,—the concurrence of aneurism and tubercle being, as Rokitansky has observed, so rare, that he only met with five cases of tubercle in 108 of aneurism,—or whether it arose from contiguity with a solid body, presenting an exciting and unyielding surface to the pulsation of the heart and its larger vessels.

This woman continued in hospital for six weeks, death having occurred on June 3; still the progress of the case left the diagnosis unsatisfactory. The tubular respiration and pectoriloquy which were heard under the right clavicle gradually

extended over a wider area, and below this point no respiration was finally audible, showing that the solidification of four-fifths of the lung was complete. Towards the close of the case the pulsatory appearance above noticed diminished remarkably, being only appreciable upon a violent fit of coughing. The parietes of the thorax at the right side, and especially under the clavicle, became depressed. At the left side some changes also ensued, respiration of a tubular character being heard under the left clavicle, and bronchial murmurs throughout the lung. At this period dysentery came on, and being anxious to return to her friends, she imprudently, and without my sanction, made an effort to leave the hospital. She was brought back in a state of syncope, and sank rapidly afterwards. Her intellect was clear to the last.

Autopsy.—The muscular and adipose tissues of the thorax were much attenuated, while the rest of the body was not much reduced. On opening the chest, the heart lay along the sternum, encroaching considerably upon the right side. The left lung did not collapse, but, on the contrary, was greatly engorged, not only filling its own cavity fully, but pushing the mediastinal septum considerably to the right, so that when the sternum was removed, the margin of the left lung extended into the cavity of the right side. The superior portion of its upper lobe was hepatized, and contained two or three small abscesses holding pus; the rest of the lung was loaded with serum deeply tinged with blood, and the mucous membrane of the bronchial tubes was red and swollen. No adhesion of this lung existed. The right was closely united anteriorly with the costal pleura by a thick fibro-cartilaginous membrane; on dissecting this away, the lung appeared to occupy about three-fifths of the cavity, not extending beyond the right mamma. Corresponding to the parts where the sound on percussion was clearer than natural, a large space existed between the inferior surface of the lung and the liver, which viscus did not ascend into the thorax. No air was perceived to escape from this cavity, and a small

quantity of serum, with gelatinous shreds, lay at the bottom of it. On detaching the lung, it presented an ovoid form, about five inches long, by from two and a half to three in width and thickness, the widest portion being at the division of the right bronchus, whence it tapered downwards to a point. Adhesion of the lobes had occurred, so that the whole looked as if it had been fused into a mass. On trying to separate the upper lobe the knife entered a large cavity from whence issued about a couple of ounces of genuine pus. The walls were thin, and there was no false membrane lining the inner surface. The rest of the lung was converted into a firm, fleshy texture, very heavy, which, on a section being made with the knife, appeared whitish and dry, not exhibiting a trace of blood. In some parts of it the grey colour predominated, in others the blue, or rather slate colour, was interspersed. The right bronchus was greatly dilated, and its branches in proportion. The tube going to the lower lobe ended abruptly in a cul de sac; the subdivisions of the others penetrated as far as the pleura. A section of the inferior lobe exhibited scarcely a vestige of bronchial branches, but in the middle and upper lobes they appeared more numerous. No sign of tubercle, as far as we could discover, existed in either lung.

The pericardium contained a small portion of yellow serum. The heart was small and its walls flaccid, the right auricle being so much softened as to seem almost gelatinous. The aorta was rather dilated at its transverse portion, without any breach of surface either there or in any of its large vessels.

The above case presents so many points of resemblance to the affection described by Dr. Corrigan, in the 'thirteenth volume of the first series of this Journal, under the name of cirrhosis of the lung, that I felt some hesitation whether I should not be justified in designating it as an example of that disease. Thus the close resemblance to phthisis, which he has noticed to prevail in the symptoms and signs of cirrhosis, existed in this case, such as hemoptysis, dulness of sound, flattening of

the walls of the side affected, pectoriloquy, and bronchial respiration; while again we had in it some of the signs which he regards as contradistinctive, for example, the augmented volume of the opposite lung, and the displaced heart. But in looking to the chief morbid alteration of the lung found in Dr. Corrigan's cases, namely, dilated bronchial tubes, ending in oval or rounded pouches, a sufficiently marked difference exists; in the above example, purulent abscess at the apex being a characteristic feature. In the complementary lung, which was hypertrophied, both in Dr. Corrigan's second case and in the above, morbid changes of a similar character were noticed, indicative of chronic inflammation, viz., hepatized spots and small isolated abscesses. In the symptoms and signs, however, of the two cases, though a general similarity exists, yet there are also some important points of difference. Thus, Dr. Corrigan, in his valuable memoir on cirrhosis, marks the absence of constitutional irritation, as being in striking contrast to the intensity of the local signs; while in the present case a degree of hectic fever continued throughout, with an excited pulse. Again, the throbbing sensation under the right clavicle did not exist in any of his cases. From these circumstances, and the general appearance of the lung, the above would seem to be rather a case of chronic pneumonia, with the rare occurrence of abscess in the superior lobe. Dr. Stokes observes that he has seen several cases of chronic abscess of the lung, but he assigns the lower lobe as the seat. "An abscess, sometimes of considerable size, occupies the lower portion of the lung; its walls are firm, and of an iron-grey colour, and the surrounding lung is in the state of chronic induration"(a). But we are informed likewise, by the same high authority, that *acute* pneumonic abscess may take place in the superior lobe(b); and there would seem no adequate pathological reason, why a part of the lung occasionally liable to the acute, should be exempt from

(a) Stokes on Diseases of the Chest, p. 317. (b) *Op. cit.* p. 314.

the chronic form. Perhaps the greater degree of fever noticed in the above case, than in the instances witnessed by Dr. Stokes, may arise from the seat of the disease, inflammation of the upper lobes being, as Andral has observed(*a*), more dangerous than of the lower. We must also take into account the sympathetic fever which usually attends the formation of pus, the total inutility of one lung as a respiratory organ, and the asthenic condition of the muscular power of the heart, as concurring causes in the present case to lead us *a priori* to infer rapidity in the circulation.

The occurrence of a cavity in the upper lobe might lead to the suspicion that it was of tubercular origin; and the similarity of the physical signs of pneumonic and phthisical abscess during life, and the want of specific marks of difference in the appearance of their cavities after death, might be supposed to favour this opinion; but in the present instance, besides the purulent nature of the contents of the cavity, seemingly identical with undoubted abscess, no appreciable sign of tubercle existed in the surrounding lung, or of the tuberculous constitution in other organs. No doubt phthisical cavities occur surrounded with pneumonic induration, but sufficient traces of the scrofulous diathesis generally exist to detect their true nature.

The nature of the throbbing in the subclavian region, and its diminution as the disease advanced, renders it a sign of peculiar interest; indeed, both in strength of impulse and correspondence with the systole of the heart, it counterfeited aneurism very closely. The occurrence of pulsation as a sign of pneumonia was noticed in an interesting case bearing some resemblance to the above, published in the Dublin Hospital Report by Drs. Graves and Stokes(*b*), and there explained to arise from the impulse conveyed from the dilated right ventricle. More recently Dr. Graves has drawn attention to the same

(*a*) Clinique Médicale, translated by Spillan, p. 407.

(*b*) Dublin Hospital Reports, vol. iv. pp. 80-84.

circumstance, for which he has proposed a different explanation(*a*). As yet it appears to have been noticed only in pneumonia and cancer of the lung.

ART. XIII.—*On the Chronic Diseases of the Laryngeal Mucous Membrane.* By EBEN WATSON, A. M., M. D., Fellow of the Faculty of Physicians and Surgeons of Glasgow, Professor of the Institutes of Medicine in Anderson's University, &c. &c.

It is usual to arrange the chronic diseases of the laryngeal mucous membrane according to their remote or proximate causes: but the constant plurality of such causes in the same case, and the difficulty of ascertaining with sufficient exactness to which the disease owes its origin,—a difficulty almost insurmountable in regard of remote causes,—render these and most other etiological classifications useless in practice. The cases which have occurred in my practice might, I think, be more conveniently arranged in two groups, according as the chief complaint of the patient was laryngeal cough or alteration of the voice. Doubtless, both these symptoms do sometimes occur in the same case, and at the same time; but even then it is by no means difficult to discover which is the more severe or important of the two. The patient himself, on applying for advice, at once directs attention to one or the other, as that which he would have removed, and which, being present, constitutes his disease.

I do not mean, in the following essay, to write a systematic account of the varieties of chronic laryngitis; but the fact which I have just mentioned presents itself so constantly to me in my daily experience, and appears to me so well suited to become the basis of a practical classification of these diseases, that I can-

(*a*) Graves' Clinical Medicine, by Neligan, vol. ii. p. 39.

not forbear illustrating it by the brief relation of two cases from among those at present under my care.

CASE I.—A clergyman, long in the habit of over-exerting his voice in public, began to complain some months ago of hoarseness, and difficulty in making himself heard. These symptoms gradually increased in severity, but still he persevered in the exercise of his usual duties, until one morning, when he spat up “a trifling quantity of blood.” His medical attendant relieved his mind at once of all apprehension regarding his lungs, but very judiciously forbade his appearing for some time in the pulpit. There was no return of the hemoptysis, but the voice remained weak and husky in spite of various means that were used for its improvement.

Soon afterwards this gentleman became my patient, and his only complaint to me was huskiness and weakness of voice, with speedy hoarseness when he spoke or read aloud for even a short time. On inspecting his throat, the soft palate was seen to be swollen, and a good deal relaxed. The mucous membrane was red and inflamed; and that part of it covering the epiglottis felt swollen, and velvety to the finger.

The history of this case would be incomplete did I not state that early in the ministerial career of my patient, he was called on to preach in a very large church, and that, in attempting to fill it with his voice, he, perhaps unconsciously, assumed a pitch beyond its natural range. A continuance of exertion in this false tone was, I doubt not, a strong predisposing cause of the affection under which he now labours.

CASE II.—The other case referred to is that of a young lady, who, towards the end of last winter, became affected with spotted sore throat, which received due treatment, and was supposed to be cured. From that time, however, she complained of frequent and pretty severe cough, which was soon accompanied by expectoration. She underwent a variety of treatment, and visited different spas and watering places without

much effect on the symptom just mentioned; but, fortunately, her general health always remained good.

Her chest was frequently examined by different auscultators, but nothing materially wrong could be detected in the lungs. At last it was supposed that the disease must be in the windpipe, and under this impression she lately placed herself under my care.

I can detect no abnormality in the chest, except a slight harshness of the respiratory murmur in the large tubes on each side of the upper part of the sternum. The breath sounds in the larynx are unnaturally loud and rough; and are generally accompanied by a moist râle.

On examining by the mouth, the pharynx is seen to be wide and cavernous. Its mucous membrane is very red in some places, to which large apparent vessels converge, and in other places it seems thin and transparent, loosely stretched over the muscles. To the finger the parts communicate a corresponding sensation of unnatural attenuation, and the epiglottis is felt stiff and narrow at the root of the tongue. The doughy feeling, in a degree natural to these parts, and so remarkable in the preceding case, is altogether absent from this one.

I have already said that this patient's general health is quite good, her appetite is excellent, and her digestion regular. She sleeps well at night; her pulse is slow and regular, and in fact she has no complaint whatever, except the cough and the expectoration of nearly pure mucus, both of which trouble her chiefly on rising in the morning.

Considering all these circumstances then, I did not hesitate to confirm the diagnosis which had been hazarded; supported as that diagnosis was both by positive signs of actual disease in the laryngeal mucous membrane, and by the absence of those of any other disease which could occasion the symptoms complained of by the patient.

I might adduce many similar cases from my note-book, but

the two just given, and which I have selected from among those at present passing under my observation, will, perhaps, demonstrate the reality and importance of the circumstance alluded to, even more forcibly than could be accomplished by multiplying examples to the same effect.

In reflecting on the cases narrated, one is led to inquire how it happened that, both these patients being the subjects of chronic laryngitis, the one was seized with cough and expectoration, while the other lost his voice. The previous circumstances of the two patients furnish us with the only answer we can at present give. The clergyman had long over-exerted his voice, the lady had not. Hence, in the former, when the chronic inflammation attacked the mucous membrane of the larynx, it speedily concentrated its energy upon the glottis, which was the most vascular and irritable portion of the organ affected. The circulation through it became thenceforward impeded, and a gradual œdema commenced. Whereas, in the other patient, the force of the inflammation was expended on the secretory apparatus of the pharyngo-laryngeal membrane, its functions became impaired, and a vitiated mucus was in a short time copiously poured upon the irritated glottis. Cough in fits, and accompanied by expectoration, was the infallible consequence.

This case, then, will at once be recognised as similar in many respects to those described by Dr. Horace Green, of New York; but it differs from them, in that the voice was never affected and the follicles were never abnormally visible in the pharynx; for the spots, seen at the commencement of the disease, were too superficial and transient to have been suppurating follicles. Indeed I am pretty sure that the dreadful affection, so vividly described by Dr. Green as common in America, is, fortunately, of rare occurrence in this country. Out of a considerable number of laryngeal cases presented to my observation, I have only met with two which might be accounted as instances of Dr. Green's follicular disease.

CASE III.—One patient was a schoolmaster from the Highlands, who had been a victim of the malady for many years. When I saw him he spoke in a husky whisper, which could only be continued more than a few minutes at the expense of much pain, referred to the region of the glottis. This pain was always caused by speaking, but ceased to trouble him when silent. His cough was harassing, and the expectoration profuse, frothy, and sometimes mixed with blood, at other times with little white cheesy substances.

His chest was free from disease; but the laryngeal respiratory sounds were louder and shorter than usual. The fauces and pharynx were studded over with white spots, the suppurated follicles, surrounded by red and swollen mucous membrane. His general health was bad; his tongue furred; his pulse quick and excitable; and his face flushed. He had also nightly perspiration and great general debility. I have not learned the issue of this case, but I should fear the worst, from the extent and duration of the disease, as well as from the circumstances of the patient.

CASE IV.—My other patient was the manager of a granary in Glasgow. He asked my advice on account of the following symptoms, viz.:—deep hoarseness and weakness of voice; pain when he attempted to raise it in calling to his workmen; a feeling of dryness in his throat, and difficulty in swallowing; a short tickling cough; and the expectoration of little white substances.

On looking into his mouth, the mucous membrane, as far as could be seen, was found in nearly the same state as that described in the former case. There was considerable relaxation of the soft palate, and a good many inflamed and suppurating follicles could be seen. No pectoral disease could be detected, and the general health was quite good. The patient thought that his complaint originated in cold, after an attack of measles which occurred ten years before I saw him, and since which time he has always complained more or less of the symptoms formerly mentioned.

I may remark here, in passing, that a blister over the throat, and the application of a solution of nitrate of silver (one scruple to the ounce of water) to the pharynx and upper part of the larynx, every second day, for about a month, were successful in removing all disease from these parts.

I believe these are fair samples of what Dr. Green would call follicular disease of the pharyngo-laryngeal membrane. There can be no doubt of the follicular affection in the pharynx, but I think it doubtful that the follicles of the larynx were similarly affected. It is worthy of remark that in all the larynges and tracheæ which M. Louis examined, and found ulcerated, he does not mention his having seen enlarged follicles in any one case. Now if these ulcers had originated in the follicles, it seems next to impossible that some of them should not have been detected, in a state of inflammation and partial ulceration, surrounding others farther advanced in that process. Nor can I regard this as an oversight on his part; for I do not recollect any case in which enlarged or inflamed follicles were detected in the larynx by MM. Trousseau and Belloc, by Mr. Porter or Mr. Ryland. Certainly there is no mention made by Dr. Copland, in his Dictionary, of altered follicles as one of the morbid lesions of chronic laryngitis found after death; and even Dr. Green himself has not favoured us with the details of any one inspection demonstrative of the proximate cause of the disease on which he writes.

In the cases, which I have related above, it does not seem to me by any means necessary, in order to account for their symptoms, to suppose that the laryngeal follicles were in the same state with those in the pharynx. An extension of the chronic inflammation to the laryngeal lining membrane is in itself sufficient to explain the phenomena referred to; and I am free to admit the probability of this inflammation having been first excited in the pharynx by follicular disease, and that it spread thence into the larynx. Even in some of Dr. Green's own cases I have thought that the evidence on which

he concluded the laryngeal follicles to be gravely affected seems unsatisfactory.

Thus, in the case of the Rev. Mr. S. (given at pp. 58–61 of his work on Bronchitis, &c.) he writes as follows:—"Pressure on the thyroid increased the pain and soreness which were constantly felt in the larynx. This last symptom, together with the permanent hoarseness and the partial extinction of the voice, was plainly indicative of the mucous follicles of the ventricles, and of those around the chordæ vocales, being involved in the disease." Now I must say, with due deference to Dr. Green, that although pressure on the thyroid might assist in a diagnosis of the condition of the pharynx, it could yield no indication of the state of the lining membrane of the larynx. And who does not know that permanent hoarseness and partial extinction of the voice often exist without any affection of either pharyngeal or laryngeal follicles? Constant pain in the larynx, moreover, is often complained of when chronic inflammation of part of its lining membrane is the only cause, and, when the pain is severe as well as constant, it is certainly not less characteristic of ulceration in any of its various forms than it can possibly be of follicular disease. I do not mean positively to deny the existence of this disease in the larynx, but to point out the absence of all pathological proof of its reality; and that the assumption of it, as the cause of certain symptoms, is neither necessary nor philosophical.

The diagnosis of the actual state of the larynx in chronic cases is, indeed, often a matter of the utmost difficulty. Little, as we have seen, can be argued from inspection of the fauces; since, when they are morbidly altered, it cannot be concluded that the larynx is similarly changed, and in a large class of cases there is no visible disease in the pharynx, while the symptoms decidedly indicate a laryngeal affection. The great desideratum, then, to which these facts point, is some mechanical contrivance, by means of which we could see at least the epiglottis and the entrance to the larynx; but, hitherto, all at-

tempts at a laryngeal speculum have failed, and we are at present unable to see any part of the larynx, except, in certain cases, the tip of the epiglottis. I cannot, therefore, omit entering my humble protest against the vague or erroneous expressions of some writers on this very subject. Thus Dr. Horace Green speaks (at p. 60 of his work, already quoted) of "pressing down the tongue," and seeing "the epiglottis standing from its base, erect and œdematous, its edges slightly ulcerated, whilst a vitiated mucous secretion was being constantly poured out from the diseased glands." And one of his friends, Dr. Alfred C. Post, one of the surgeons to the New York Hospital, writes as follows to Dr. Green(a):—"In a number of instances I have exposed distinctly to view the laryngeal surface of the epiglottis, and, passing over it the sponge saturated with the caustic solution, I have had ocular demonstration of its application to the mucous membrane of the larynx." On reading these passages, I was inclined to think that the parts in question must be differently formed in the inhabitants of the New World from what they are in those of the Old; for my experience, as well as that of all with whom I have conversed on the subject, is, that in but a few instances can even the tip of the epiglottis be exposed to view.

I am at present attending a patient whose epiglottis can hardly be reached with the finger, and this state of the parts I have not unfrequently met with in cases in which no ulceration had ever taken place. What, then, am I to say of the following passage, which occurs in a review of Dr. Horace Green's work on croup, which appeared in the *Lancet* of January 26, 1850?

"This gentleman, Dr. Hancock Douglas of New York, a near relative of Dr. Green's, had also in his case a tongue spatula, without the aid of which it would be difficult to *freely expose the* GLOTTIS to the view. On placing the spatula on the

(a) See Appendix, p. 260.

tongue, that organ is readily brought forward, and the *fissure* can at once be seen, and the instrument readily introduced."

I think the *Lancet* ought to have given a figure of this wonderful instrument, or at least an accurate description of it; and I some time since wrote to the editor to that effect, but neither figure nor description has yet appeared. If, however, this spatula be the same with that recommended by Dr. Green, a description of which may be found in that gentleman's work, I am sure it cannot fulfil any such expectations as those held out by the reviewer in the *Lancet*. In truth, the structure and relations, as well as the functions of the parts themselves, render nugatory all attempts to obtain a satisfactory view of them in the living subject. This was fully stated by MM. Trousseau and Belloc many years ago, in their admirable work already referred to; and their observations have been found but too true by myself in some experiments I have lately made with different mechanical contrivances.

The physical signs, then, of the chronic affections of the larynx, do not in general include those which may be seen. More dependence, I think, may be placed on the information obtained by touching the parts with the finger introduced through the mouth. In this way the various changes of the epiglottis may be discovered, and either the doughy feeling of œdema, or the more resisting impression conveyed to the finger in thickening of the mucous membrane itself, may be diagnosed as far down as the thyro-epiglottidean folds, or perhaps in some instances even to the glottis. Ulcers may sometimes be thus detected also, but, excepting syphilitic ulcers, they are seldom so deep or so marked at the edges as to be perceptible in an examination necessarily so hurried as the one of which we are now speaking.

Auscultation and percussion of the larynx and trachea, though often too much neglected, are, I am persuaded, capable of yielding valuable information regarding the state of the lining membrane of these organs. The stethoscopic signs are

especially worthy of attention. They consist chiefly in varieties of the respiratory murmur, and of the comparative lengths of the inspiratory and expiratory sounds. Râles are often heard in the larynx, but permanent ones are very rare. It is likewise of great importance to ascertain the state of the respiratory murmur in the upper parts of the lungs, because its strength or feebleness bears a direct ratio to the obstruction in the larynx. The tones of the voice and the sound of the cough through the stethoscope placed over the thyroid cartilage, should likewise be noted, as indicating the thickness and entireness of the valves of the glottis. I grieve to think that, so many years after the masterly remarks of Dr. Stokes on this very subject^(a), we cannot speak more precisely of the physical signs of chronic laryngitis. The observations of no one person, however extended, can suffice to establish such points of diagnosis, and I have been induced to mention some of them, in the hope that physicians will not only investigate this subject more systematically, but also, that they will publish the results of such investigations more frequently than they have hitherto done.

In the treatment of chronic disease of the laryngeal mucous membrane, I place my chief reliance on topical applications to the parts affected, but I do not undervalue or neglect more general measures. Indeed, I should despair of curing the local affection if the health of the patient were unattended to, if exertions of the voice were persisted in, and if the larynx were not freed from every cause of excitement or irritation.

I do not intend, in this place, to enter at large on the history of topical applications to the larynx. For this I must refer to more systematic treatises. Suffice it here to say, that that plan of treatment is no such novelty as many suppose, and that probably it took its origin from our own distinguished countryman, Sir Charles Bell. In his *Surgical Observations* he

(a) Stokes on the Chest, p. 247.

relates a case in which he employed a solution of nitrate of silver applied to the interior of the larynx with great benefit. His account of the proceeding is as follows:—"I made a small pad of lint," he says, "and attached it to the ring of a catheter wire, and bent the wire so as to pass over the root of the tongue and epiglottis; I dipped the lint in a solution of twenty grains of the caustic to half an ounce of water, and touched the glottis with it in this manner: with the fingers of my left hand I pressed down the tongue and stretched the forefinger over the epiglottis; then, directing the wire along the finger, I removed the point of the finger from the glottis, and introduced the pad of lint into the opening, and pressed it with my finger." MM. Trousseau and Belloc, without knowing, or at all events without acknowledging Sir Charles Bell's practice, used the very same method, but substituted a whalebone rod for the catheter wire, and a piece of sponge for the pad of lint. I confess it remains doubtful, whether Sir Charles Bell passed his instrument through the glottis into the larynx. Trousseau and Belloc tell us, they did not with their sponge and whalebone, but had recourse to an ingenious syringe for that purpose. It is, therefore, due to Dr. Horace Green, to acknowledge that he first declared he could pass a similar instrument to that of Trousseau and Belloc down into the laryngeal cavity. I must say, however, on the other hand, that after trial of various spatulas for holding down the tongue, as recommended by Dr. Green, I have gone back to Sir Charles Bell's plan of introducing the finger upon the laryngeal surface of the epiglottis, and thus guiding the sponge into the rima glottidis. The strength of the solution should vary with the requirements of the case, and it should be applied every day or second day, according to the patient's feelings. After each application a degree of rawness sometimes amounting to positive pain will supervene, and while this lasts no new application should be made; but as soon after its subsidence as convenient it may be repeated with benefit. In fact, the sooner it can be done the

better, for, powerful as we believe the remedy to be, it is often a long time ere any perceptible improvement takes place, especially when the case is one of long standing. It is of great importance that both surgeon and patient be prepared for this before commencing the treatment, else disappointment will infallibly ensue. All attempts on the part of the patient to test the progress of the cure should be for a time discouraged by the surgeon, and he should carefully avoid appearing to expect improvement by asking after the symptoms until he has good reason to believe that they are yielding. Indeed I have seldom found it necessary to ask at all after improvement in such cases, for the patient himself is always fully aware of it when it has occurred, and equally eager to speak of it.

The following case illustrates many of these remarks, more especially the hopefulness of a cure being effected, even when the disease is of long standing; and also the steady perseverance in the use of the means required for the accomplishment of a successful issue during a period in which their efficacy was anything but apparent:

CASE V.—A clergyman from the north of Scotland committed himself to my care in January last. Fully six years before he had been attacked by what he considered a common hoarseness, which he disregarded for a time; but, as it grew worse, he at length sought for medical advice. His case seemed a difficult one, and baffled the treatment of the surgeon who ordinarily attended him. He therefore removed from the country, where his parish was situated, into Glasgow, and put himself under my father's care. He was then treated by frequent leeching and blistering; he was put on a mild and continued course of mercury, followed by one of iodine, and latterly he had caustic issues made at each side of the thyroid cartilage. With these kept open, he resided for several winters in the south of England, and never during his whole treatment did he at all exert his voice, but spoke when necessary in an under tone. At length he returned home, having derived little or

no benefit from the means he had employed, and determined to give up all idea of being able to discharge the duties of a clergyman.

His complaint, however, did not become stationary, for he soon found that not only was he unable to speak aloud, but he could not sit for any length of time in a heated or crowded room. He was therefore debarred from attending public worship, and even when in the same room with a few friends, in private, he latterly felt so oppressed that he was obliged to go out into the fresh air now and again to breathe freely.

He was in this state when he visited me on the 6th of January, 1850. He spoke with apparent difficulty, in a low, husky whisper, which in a few minutes became broken and disagreeable. His health was perfectly good, and he had no cough. On examining his throat nothing particular was seen. The mucous membrane was of its usual colour, the palate was not relaxed, and no papules or follicular ulcers were to be discovered.

He complained of a burning pain, and frequently of an intense feeling of dryness in the larynx. The pain was not increased by pressure of the thyroid cartilage from without, but, during the process of applying the solution of caustic afterwards, he often mentioned that it smarted at that spot. Percussion of the larynx and trachea was loud and sonorous; the breath sounds were dry and hissing, and both the expiratory and inspiratory were of equal duration; the voice, heard through the stethoscope applied over the thyroid, had a stifled and sometimes almost a croupy tone, and the cough had a similar character.

I lost no time in commencing the topical treatment in this case, at first with a solution of one scruple of the nitrate of silver in an ounce of water. I permitted him to take exercise daily in the open air, but advised the use of the respirator, as the weather was cold and changeable. I also recommended a blister over the larynx, to assist in diminishing its irritability

and allow me sooner to pass my sponge through the glottis. This was accomplished in two or three days after commencing the treatment, viz., about the 7th or 8th of January, and continued every day, with few exceptions, till the end of the month. He then found himself so much improved as to be able to attend even a crowded church without feeling oppression of breathing as formerly, and without losing his voice, which was greatly improved, though still husky and irregular, *i. e.* incapable of modulation. I continued to touch the interior of the larynx, the glottis, and epiglottis, during the whole of February, every second or third day; and I increased the strength of the solution to two scruples of the nitrate of silver to an ounce of water. By the end of this, the second month of treatment, his sensations were so different, and his voice so much improved, that he considered himself cured. He had for some weeks attended public worship regularly twice every Sunday; a habit which he had been obliged to discontinue during the four previous years of his life. He could now speak or read aloud in an ordinary room without difficulty or failure of voice. His tone was firm and clear, and he modulated his voice as much as he had ever done.

I cautioned him against any excessive use of his voice, but encouraged him to exercise it moderately every day. I recommended him still to use the respirator, and to have his throat touched by some surgeon at least once a week, till his voice was fully restored. Since his return home I understand, through his relations, some of whom reside in Glasgow, that his voice remains strong, and that he is free from his other laryngeal symptoms; in fact, as he begins to use his voice more freely, he finds it better and stronger than he expected.

This case is interesting in many points of view. It shows how long this disease may exist in some persons without the cartilages becoming affected, and almost inclines to the belief that it is an essentially different class of affections which terminates in that manner. It at the same time proves that the

irritability of the mucous membrane is not easily worn out by time, even in the most favourable circumstances; nay, that it at length becomes so aggravated as to resemble asthma in its paroxysms of spasmodic breathlessness. In some cases I have no doubt that this irritability of the larynx, especially if complicated with ulceration of its lining membrane, becomes an exciting cause of true bronchial asthma. I can, at present, offer only one satisfactory illustration of this statement, but I believe that, if inquiry were more frequently made, cases of the kind would be numerous. If the fact were established, it would lead to an important modification both of our prognosis in cases of chronic laryngitis, and of our treatment in cases of asthma.

CASE VI.—In the autumn of 1848 a lady, somewhat below middle age, who had for some years been subject to similar attacks, was suddenly seized with a very severe fit of bronchial asthma, the violence of which was subdued in the ordinary way. When she had recovered I observed that her voice was more than usually weak and husky; but was informed that such had been its character for many years. She herself complained to me of a constant pain, of a sharp, lancinating nature, within the thyroid cartilage.

On inquiring into the history of her illness it was found that the patient in early life had been frequently attacked with acute laryngitis, which had ultimately assumed the chronic form, as indicated by the following symptoms, which remained, viz., frequent tickling cough, a weak, husky, and often hoarse voice, and ere long a constant fixed pain in the region of the glottis, combined with an incessant hawking-up of a little muco-purulent matter, sometimes tinged with blood. On carefully examining this lady's chest after the fit had passed away, the loud, sonorous râles, and occasional amphoric breathing, characteristic of partial dilatations of the air tubes, were at once detected; the resonance on percussion was deep and full; the breath sounds in the larynx were harsh and dry.

After a few days occupied in recruiting my patient's strength,

I commenced to touch the glottis with solution of caustic, and was rewarded in due time by the removal of the laryngeal symptoms, and procuring a much longer respite from the asthma than had occurred for many years.

The state of the bronchi, however, remained nearly the same, and after using various remedies with but partial benefit, I united with my father in recommending a change of climate. Our patient, nevertheless, remained in the neighbourhood of Glasgow for about a year without any regular return of the asthmatic paroxysms, though she never wanted a cough and muco-purulent expectoration. Since that time she has resided constantly in the Isle of Wight, where she has again suffered from her old complaint; and it serves to indicate the relief she experienced while in Glasgow from the touching of the larynx with caustic solution, that, upon the occasion referred to, she insisted on a similar treatment being employed.

In cases of purely laryngeal affection the fits of breathlessness and sense of suffocation are very seldom, if ever, so excessive as in the foregoing case; but they are, generally, marked enough to occasion much distress to the patient. They are most severe in those cases in which the glottis is principally affected, whether that be by œdema or ulceration. In the latter case the ulcer may not be upon the glottis itself: but, if in the neighbourhood of that organ, changes of temperature are apt to irritate the sore and excite contraction of the glottis, whereas in the former case the slightest disturbance of the general circulation, as, for instance, sitting in a heated apartment, or entering one from the cold air, immediately increases the previously existing enlargement of the glottis, so as to aggravate the patient's difficulty of breathing. Both these conditions co-exist very often in the same case, and I believe that that of the clergyman, formerly narrated (page 339), was an example of this distressing combination. Nor could I adduce a better instance in proof of the efficacy of the solution of caustic, applied to the

part affected, in removing these prolific causes of pain and anxiety.

One of the most important general instructions that can be given to a patient suffering from chronic laryngitis, is to preserve as perfect a silence as he possibly can; and even when he requires to speak, to do so in a whisper. He will thus avoid the irritation which the use of the vocal organs always produces in some degree, for in whispering the glottis is very little disturbed, and the vibration of the whole larynx, which occurs in common speaking, is diminished to the minimum. The parts are, therefore, in the most favourable state for being cured, and the progress of the case is generally satisfactory or otherwise, just as the patient submits or does not submit to this injunction.

CASE VII.—A young lady of delicate constitution, who was engaged most part of the day in teaching music, was suddenly seized, in August, 1849, with very distressing difficulty of breathing, and frequent harsh cough. Whenever she opened her mouth to speak, this cough, which was of a peculiar hoarse, barking character, interrupted her, and, in fact, prevented her from discharging her usual duties. It was this which led her to seek medical advice, for the symptom mentioned had existed, though in a milder degree, for many years. Her voice, when it could be heard, was weak and husky. The act of swallowing was painful, and she had a constant feeling of rawness in the throat and larynx.

On inspection of the fauces, the mucous membrane was found red, and the tonsils slightly swollen. Percussion of the chest was natural, and the respiratory murmur was distinct, though feeble. When the stethoscope was placed over the thyroid, the breath sounds were harsh and whistling; the epiglottis was felt to be curved laterally, and the neighbouring parts were soft and swollen. I ordered an emetic immediately, and when it had ceased to act, a blister to be applied over

the throat. Next day my patient was much improved. The difficulty of breathing and swallowing was gone, but the cough and weakness of voice remained the same. I now commenced to touch the interior of the larynx with a solution of nitrate of silver (one scruple to the ounce); her digestive organs were put in order, and a solution of quina in dilute sulphuric acid was administered. She was likewise encouraged to take outdoor exercise as regularly as the weather and her duties would permit, but on no occasion to leave the house without wearing a respirator. Under this treatment, in about fourteen days the cough had diminished in harshness as well as in frequency, the voice had become considerably stronger, and the general health much improved; but she had not recommenced teaching more than a few weeks ere all her former symptoms had returned with increased severity. The topical plan of treatment was again successful up to a certain point; the difficulty of breathing was removed, and the voice became stronger, but the cough still remained, though milder in form, and less frequent in occurrence. During the summer holidays, when relieved from the necessity of daily teaching, still further progress has been made towards a cure, and though all treatment has been suspended for months, my patient remains nearly, but I cannot say perfectly free from her former cough.

I introduce this case here for three reasons:—1st, to show, by its unsatisfactory result, the evil of continuing the exercise of the voice when the larynx is affected by chronic disease; 2nd, to illustrate the occurrence of acute action in a chronic case, a circumstance well known in regard of other diseases, but generally overlooked in estimating the danger to the life of a patient, arising from the presence of chronic laryngitis; and 3rd, to enforce caution in prognosticating as to the progress of such affections. Until our means of diagnosis are more exact, our prognosis must be given with much uncertainty, and our expectations must, consequently, be often disappointed. It must not, however, be supposed that I attribute the duration

of the preceding case to the severity of the disease. Much of it, as I have previously remarked, was due to the continuance of speaking, rendered necessary by the patient's circumstances; and when I became aware of this fact, I at once warned her of its probable effect upon the treatment.

The following case forms an agreeable contrast to the preceding, and illustrates the happy results of nearly complete silence while treatment is being employed for chronic laryngeal disease. In this case the glottis was the chief part affected.

CASE VIII.—The subject of it was a young lady, assiduously engaged in preparing herself to become a public singer. She had, I understand, a very fine and powerful voice; but, last January, without any apparent cause, it became stiff and unmanageable. She complained to her master of the difficulty she now felt in the execution of her vocal pieces, but he, unfortunately, encouraged her to persevere in her efforts to overcome it. Such attempts seemed at first to promise success, but they always left her exhausted and hoarse, even in speaking. In this manner she continued for about two months, the disease every day becoming more confirmed, and its symptoms, of course, more aggravated. It was then evident that it would be folly to pursue her present course any longer. She therefore gave up attempting to sing, and retired to the country, where all the usual remedies for laryngitis were tried in vain; and towards the end of March she came back to town, and placed herself under my care.

She complained to me of hoarseness and weakness of voice in speaking, and of inflexibility as well as want of tone in singing. She had a slight degree of pain in the larynx, amounting to a heat or dryness there; but she had neither cough nor any other symptom. Auscultation of the larynx indicated some degree of obstruction at the glottis. The chest was perfectly sound, and the general health was quite good. The appearance of the pharynx was in no way changed.

I immediately commenced the application of caustic solu-

tion to the glottis, and continued it thrice a week. I also recommended my patient to preserve as complete a silence as possible, and, if she did speak, to do so in a whisper. I had every reason to believe that she submitted strictly to this injunction, and she was rewarded by the result, for her voice was restored to its former purity about the 8th of April, when she returned to the country. Having, however, foolishly exposed herself to cold and wet soon afterwards, she suffered a relapse of her former symptoms. She therefore again came to town and submitted to a similar treatment and regimen ; and it was not till the end of May that her voice had once more resumed its natural tone and power.

The insidious nature of the commencement of these chronic affections of the glottis is one of their most remarkable features. When the patient is not much in the habit of using his voice, except in common conversation, they have generally made much progress before they are noticed, and sometimes they show themselves very suddenly and in a most formidable shape. It is very likely that the occurrence of an acute aggravation of the malady is the true explanation of most of these cases. There are several of the kind on record, but as they are by no means common, I may mention the following.

CASE IX.—One evening last winter, a railway porter had occasion, in the exercise of his duties, to call aloud to one of his fellows, when suddenly his voice failed, so that he could not raise it above a husky whisper. He applied to me about six weeks after this occurrence, and he still spoke in the same under-tone. He breathed quickly and with apparent difficulty, each inspiration being accompanied by a harsh and almost stridulous sound. He had, however, no positive pain, but only a feeling of tightness in the larynx. On cross-questioning him, he admitted to me that his voice had been weak and slightly hoarse for some time prior to its sudden and complete failure.

The fauces and back of the pharynx were red and relaxed.

The thyro-epiglottidean folds, and other parts of the mucous membrane on a level with them, felt soft and swollen to the finger. The inspiratory sound, as heard through the stethoscope placed over the thyroid, was harsh and rough; the expiratory was long and whistling.

I ordered this man an emetic, and eight leeches to be applied over the thyroid cartilage, and next day I commenced touching the pharyngo-laryngeal membrane with a solution of a scruple of nitrate of silver in an ounce of water.

In ten days he was able to resume his work, but I cautioned him not to exert his voice above what was absolutely necessary. He nevertheless returned to me in about a month, almost as bad as ever with the same disease. He said his occupation had rendered it impossible for him to use the precautions I had enjoined. A blister to the throat, and the topical application repeated steadily for other eight or ten days, again restored the voice, and I have heard no more of my patient.

There is a class of cases in which the inflammatory irritation seems to be confined to the epiglottis alone. In them the voice is not at all affected, and there is no very remarkable cough. An incessant hawking, and a constant liability to choke in swallowing, are the most marked symptoms, and they, although at first apparently of little moment, sometimes increase to such an extent as to constitute a very troublesome and painful disease.

CASE X.—Some time ago, a middle-aged lady consulted me for what she thought a tightness in the throat. She described this as being so bad in the morning that she had not been able to breakfast with any degree of comfort for about a year; so constant was the failure of the epiglottis to protect the opening of the larynx, and so irritable were the valves of the glottis itself. Fluids, as she said, went constantly "into the wrong throat," and both frightened and annoyed her exceedingly, so that she could hardly think at length of sitting down to a meal.

Her health otherwise was quite good, and she at once submitted to the topical application which I proposed to her. I endeavoured in this case to bathe the epiglottis chiefly with the caustic solution, and soon succeeded in removing its excessive irritability, which had occasioned her so much uneasiness.

I have hitherto confined my remarks to cases of uncomplicated chronic laryngitis. It is, however, a well-known fact, that that disease is a frequent attendant on pulmonary affections, especially phthisis. Now, although in such cases the latter disease, and not the former, is that which threatens the life of the patient, and therefore deservedly engrosses chief attention, yet there are certain cases in which, by the alleviation or removal of the laryngeal affection, we are able to greatly mitigate the distress of our patient. I have formerly given a case (No. VI.) of asthma, in which a temporary cure was accomplished by this means; and I could add many others belonging to the still graver class of phthisical patients.

Some may, perhaps, think, as I myself at first did, that this practice would be dangerous in cases of the last-mentioned disease; but I have now employed it in all stages of that malady, with more or less benefit in each case, and with injury to none. It will at once be admitted, after the cases already given, that in the early stage of phthisis, when it commences with a tickling, laryngeal cough, and perhaps occasional vomiting, the topical application of solution of caustic may be likely, as I know it is capable, of greatly diminishing for a time the irritability of the glottis and its neighbouring parts. But it may surprise some when I state the utility of the same means in some cases of acute hemoptysis.

CASE XI.—A young gentleman of stout habit, but of a phthisical diathesis, was suddenly seized with violent hemoptysis, for which he was bled from the arm, and received other appropriate treatment, medicinal as well as regiminal; nevertheless, a frequent, hacking cough continued, and seemed to

cause an almost constant expectoration of small quantities of blood. Thinking that this might be partly occasioned by irritability of the upper portion of the windpipe, I proposed to try the effect of a cautious application of the solution of caustic; and after warning him, if possible, to avoid permitting himself to retch, I did introduce the probang down to the epiglottis. I repeated this day after day, and more freely as I proceeded with impunity. In a short time I had the satisfaction of finding that the cough was removed, and with it the spitting of blood.

Even when there is a profuse purulent expectoration from one or more tuberculous abscesses in the lung, topical applications to the larynx may be used with benefit. There are no cases, it is well known, in which ulcers more frequently occur in the laryngeal mucous membrane than those just adverted to, and hence much of the pain and distress presented by them. To alleviate these symptoms most speedily and most effectually, the caustic solution must be applied to the interior of the larynx; and I am able to say, from considerable experience, that the remedy is as safe as it is sure. The following was the first case of the kind that occurred to me.

CASE XII.—The subject of it, a lady about thirty years of age, had laboured under unequivocal symptoms of pulmonary phthisis for some time previously to my seeing her; and when I examined the chest I found evidence of a considerable abscess at the upper part of the left lung. She complained of the frequency of the cough, and of constant pain within the thyroid cartilage; her voice was husky, and she was subject to vomiting. Alternations of temperature had great influence on the cough and voice. The expectoration was profuse and purulent, but never bloody.

I had treated this lady's sister, by the topical method, for a simple laryngeal cough, and had succeeded in curing it. She was therefore very naturally impressed with the idea that benefit might also accrue in her case from a similar treatment,

and urgently requested me to try it. I did so with some reluctance, but have had no reason to regret the result. The immediate effects of the application were not severe, and the benefit which followed was soon obvious; for as the irritability of the pharyngo-laryngeal membrane diminished, the cough became less frequent and less easily excited by change of temperature, the voice improved, the pain in the larynx decreased, and the vomiting became much less troublesome.

The mere removal of a group of distressing symptoms was not the full extent of the alleviation obtained in this case; for since that has been accomplished, the pulmonary abscess has not increased, while the general health and vigour have greatly improved; so that instead of the daily and visible progress of a rapid consumption, this patient enjoys prolongation of days and comparative health.

I am very far from claiming for the topical treatment of *laryngeal* disease the much-to-be-desired power of curing *pulmonary* phthisis, but I believe it capable of effecting much greater relief to most sufferers from that dreadful malady than all the farago of artificial atmospheres, inhalations, cough mixtures, &c., or even than the much-used respirator. In the early stage of phthisis the measures just mentioned are often, in my opinion, more hurtful than beneficial, interrupting as they do the general hygienic regimen which ought then to be pursued; and in later periods of the disease, in which some of them might with propriety be employed, topical applications to the larynx will often be found too efficacious to be altogether overlooked or laid aside.

ART. XIV.—*Observations on Chronic Dysentery*. By R. MAYNE, M. D., F. R. C. S. I.; Physician to the South Dublin Union Workhouse, and Lecturer on Anatomy and Physiology at the Carmichael School of Medicine.

HAVING in a former paper in this Journal(a) given a brief sketch of the late epidemic dysentery, as it fell under my observation in its acute form, I purpose in the present communication to notice some of the more remarkable complications which arose in the chronic variety of the disease. I shall not dwell at any length upon the symptoms or the pathology of chronic dysentery; both are, unfortunately, but too well known to the profession in Ireland, and neither of them presented in the late epidemic any features of novelty.

In several cases *venous inflammation* appeared as a complication of dysentery: in some patients it assumed the form of the adhesive phlebitis, seizing upon the iliac veins and sometimes even extending to the inferior cava itself. A painful tumefaction of the corresponding lower extremity, presenting all the characters of phlegmasia dolens, was the constant result of this inflammation. In a few dysenteric patients the venous inflammation assumed the suppurative type, or at least the characteristic constitutional disturbance of suppurative phlebitis set in unexpectedly in the progress of dysentery, and was soon followed by purulent deposits in remote parts of the system, with a rapidly fatal result.

It was remarked by my colleague, Mr. Shannon, and myself, that the adhesive phlebitis, producing as it invariably did painful œdema of the lower extremity, occurred exclusively in the *chronic* dysentery, and that it generally attacked persons who had for many weeks been suffering from bowel irritation. The first symptoms usually noticed were severe pain either along the course of the femoral vessels in the groin, or at the

(a) New Series, vol. vii. p. 284.

back of the hip-joint, where the sciatic nerve emerges from the pelvis through the great sciatic notch. Sometimes the first uneasiness was referred to the calf, or even to the front of the leg. In one case the severity of the pain and its situation behind the hip-joint caused the complaint for many hours to bear a striking resemblance to sciatica; and in another the patient was first seized with intense pain in the left lumbar region, immediately beneath the kidney, which, however, quickly extended down to the corresponding groin, in the track of the external iliac vessels.

In the majority the limb became at once almost powerless to support the weight of the trunk, every attempt to assume the erect position causing a bursting sensation along the course of the vessels and an indescribable amount of suffering. Even in the early periods a careful examination of the limb seldom failed to detect marked tenderness upon pressure in the line of the femoral vessels, from Poupart's ligament to the opening in the triceps, through which the vein and artery both pass into the popliteal space. A hard, dense cord, traceable by the fingers, afforded also sufficient evidence of the changes going on within and around the inflamed vessel, whilst the pulsations of the artery were uninterrupted, showing that the vein, not the artery, was chiefly affected. As the disease progressed the various superficial tributary streams, such as the superficial epigastric vein, the superficial circumflex ilii, the great anterior saphena, &c., became remarkably turgid, and by their blue colour gave timely notice that the main channel was obstructed; whilst at a later period the hard, whip-cord-like feel of these vessels abundantly proved that the inflammation had extended to their own parietes.

The swelling which quickly ensued was highly characteristic; unlike ordinary œdema, it seized at once upon the entire extremity, pitting imperfectly on pressure; the circumference of the limb, wherever examined, was found to be at least double that of the corresponding portion of the opposite one. Added

to these symptoms there was at first a decided increase in the temperature of the limb, with marked tenderness upon pressure wherever it was examined; whilst at a later period, when all inflammation was at an end, the enlargement yielded slowly to treatment, weeks sometimes elapsing before any notable diminution took place in the unwieldy member.

It was remarkable that both lower extremities were seldom affected simultaneously; yet, when one of them suffered, the other was very generally attacked at a subsequent period, and it constantly happened that the second attack was traceable to renewed irritation in the large intestine. One patient in particular appeared to have recovered thoroughly from dysentery and phlegmasia dolens of the left lower extremity, when the dysenteric stools recurred, and were followed after a brief interval by painful tumefaction of the right leg and thigh, parts which had escaped perfectly during the former visitation.

As to treatment; most of the patients were already much exhausted by severe dysenteric symptoms, before the venous inflammation set in, and great difficulty was therefore experienced in the choice of remedies. Marked relief was, however, in general, produced by local depletion in the immediate vicinity of the inflamed veins; and thus leeches to the groins and along the course of the femoral vessels proved very effectual. In one case already related, where the pain was referred to the great sciatic notch, cupping the gluteal region was found most beneficial. In this instance, the large veins from the hip and thigh, which here enter the pelvis to throw themselves into the internal iliac veins, were doubtless inflamed, which accounts for the peculiar locality of the pain, and also for its relief by the treatment adopted.

Warm fomentations, and a due attention to the position of the limb, by raising it so as to favour the venous circulation, were exceedingly serviceable. Mercury, exhibited so as to touch the gums moderately, was followed in many instances by a favourable result, as it appeared to possess considerable powers

in controlling the inflammation; but as a prophylactic it was unquestionably a failure, for more than once the right lower extremity was attacked, whilst the gums were still sore from the mercury administered to subdue phlebitic inflammation in the other.

After the acute symptoms had subsided, iodine frictions and the careful application of flannel rollers seemed to hasten the cure; but, under every variety of treatment, the recovery was tedious.

When death ensued, this event was attributable not so much to the venous inflammation as to the unmanageable disease with which it was associated; and so fatal was the accompanying dysentery that many opportunities occurred for examining after death the inflamed veins. The great venous trunks of the diseased limb, viz., the internal iliac, the external iliac, and the femoral, presented in every case, without exception, the well-known characters of adhesive phlebitis; in some, the popliteal, the profunda, the gluteal, and the sciatic, were likewise affected, and in a few the disease had extended to vessels of a still smaller caliber, the anterior and the posterior tibials, the anterior saphena, the epigastric, and the circumflex ilii, superficial and deep, being involved in the inflammation.

The cavities of the affected vessels were filled with coagula, which adhered to the lining membrane, and varied in colour and consistence according to the duration of the disease. When the inflammation was recent, the coagula retained more or less of the colouring matter of the blood; at a subsequent period, the colouring material seemed to have been partially absorbed, and then, these concretions consisted of tough, dingy fibrine, intimately adherent to the venous tissue; whilst at a still later date all traces of red colour had disappeared, and the parietes of the veins were so perfectly amalgamated with the contained coagula, as to defy all attempts to separate them.

In no case had any effort been made by nature to re-esta-

blish the circulation through the diseased vessels, by the formation of new channels either in the centre or along the surface of the coagula; on the contrary, the cavity of the vein was always completely plugged by the concretion, which latter always proved to be a perfectly solid cylinder.

In reflecting upon the extraordinary amount of obstruction revealed by dissection (an obstruction which sometimes affected simultaneously the main channels of the limb up to the very cava itself, as well as the second and third-rate veins, both deep and superficial), an anatomist might well feel at a loss to conjecture how the circulation had been maintained, and be almost excused for doubting the possibility of a cure; whilst all surprise at the slowness with which such cases usually recover would be for ever banished from his mind.

The coats of the inflamed veins were found remarkably thickened; instead of the thin semi-transparent appearance which belongs to them in the healthy condition, they were opaque and tough, so as to be with difficulty distinguishable from the accompanying artery, to which, in general, they closely adhered. The lining membrane also had lost its peculiar polish, and was frequently blood-stained, but without any arborescent vascularity.

Looking to the rectum as the principal source of the irritation, and recollecting that some of the veins of that intestine run into the internal iliac, I at first expected to find, in every case, the inflamed veins traceable to the walls of the gut; in this expectation, however, I was disappointed, for although occasionally one or more of the inferior or middle hemorrhoids presented all the characters of the adhesive phlebitis, yet in the majority the veins of the rectum, down to the very verge of the anus, were found perfectly healthy, although the trunks of the iliac veins were at the same time absolutely impervious from inflammation. It is also particularly worthy of remark that when any of the lower hemorrhoidal veins were found inflamed, many other tributaries of the internal iliac vein were

in precisely the same condition; the uterine, the vaginal, the vesical, &c., were in such cases filled with adherent coagula, and were equally impervious (that is to say they were equally inflamed) with the hemorrhoidals.

Judging from several carefully conducted dissections, I would say that the route by which the inflammation travels in these cases is not by any means constant, and that even the starting point of the inflammation is not uniformly the same. In some, it apparently commenced in one or more of the tributary streams running into the internal iliac vein, and from thence extended *in the line of the circulating current* to the trunk of the internal iliac, the common iliac, and the cava, and *in a retrograde direction* to the external iliac, the femoral and its numerous tributaries, and even to the gluteal and the sciatic veins external to the pelvis. In others the inflammation originated about the confluence of the internal, the external, and the common iliac veins, from which as from a centre it radiated. In a third class of cases the trunk of the internal iliac vein was the first attacked.

It was no very difficult matter in general to determine the *point de départ* of the inflammation, as this was sufficiently indicated by the greater solidity of the coagula, their comparative deficiency in colouring material, their more intimate adhesion to the lining membrane of the vein, and, in a word, their more perfect organization.

The close proximity of the rectum, the sigmoid flexure of the colon, and the cæcum (parts which in chronic dysentery are always extensively diseased), to the iliac veins on either side, may, perhaps, sufficiently account for the readiness with which these vessels take on inflammatory action; but whether this be the true explanation or not, certain it is that the inflammation often *originates* in the trunks of the iliac veins. The excessive irritation of the large intestine in dysentery may excite adhesive inflammation in the neighbouring venous trunks; but in these cases the phlebitis does not necessarily,

nor even generally, commence in the veins of the diseased intestine.

This result of repeated examinations is, after all, what might be expected on theoretical grounds; for most of the venous blood of the large intestine finds its way into the vena portæ, and a small proportion of it comparatively, and that from the lower part of the rectum only, reaches the internal iliac vein; so that, on anatomical principles, phlebitis affecting primarily the veins of the large intestine ought to extend to the vena portæ more frequently than to the internal iliac.

I am fully aware that other observers have also noticed painful tumefaction of the lower extremities as a consequence of dysentery. Dr. Cheyne, in the *Dublin Hospital Reports*, vol. iii., in describing a former epidemic, says:—"It is worthy of remark, that a swelling occurred in several patients, both male and female, resembling the phlegmasia dolens in every respect, but in its connexion with parturition." When Cheyne wrote, however, the pathology of phlegmasia dolens was unknown, and he therefore does not appear to have suspected that the swellings in question were the result of phlebitis. To Dr. Lee is justly due the credit of having been the first to describe the true pathology of phlegmasia dolens^(a); he was also aware that a similar disease occurs in the male subject in connexion with dysentery, but from the tenor of his observations it would seem that he considered the inflammation to arise in all such cases primarily in the veins of the intestine.

Suppurative Phlebitis.—Of this variety of the disease only a few examples occurred. The symptoms, however, in all of them were so characteristic, that I entertain no doubt whatever of their nature; although, as often happens in such cases, dissection failed to point out satisfactorily the particular veins in which the inflammation originated.

(a) See *Medico-Chirurgical Transactions*, vol. xv. 1820; also *Cyclopædia of Practical Medicine*, Art. "Phlegmasia Dolens."

The suppurative phlebitis, unlike the former variety of venous inflammation, appeared as an *early* complication of dysentery, having shown itself in every instance whilst that disease was still in its acute stages. The patients in whom it occurred were invariably affected with dysentery in its worst form, as was abundantly evident by their intense sufferings from the very outset of the disease, as well as by the peculiarly offensive nature of their dejections. The complication in question usually arose some time from the fifth to the twelfth day, and was ushered in with severe rigors, followed by great constitutional disturbance: the pulse rapidly rose to 130 or even 140 in the minute; the countenance became excessively anxious; and rigors, followed occasionally by profuse sweatings, recurred at irregular intervals.

One woman, after presenting these formidable symptoms for eight and forty hours, was suddenly seized with intense pain in the region of the liver, accompanied by slight jaundice and very considerable dyspnoea. After a further interval of many hours, the pain seemed to have shifted to the neighbourhood of the seventh and eighth intercostal spaces, the respirations amounting to forty-four in the minute, and the pulse to 140. On exploring the chest a distinct pleuritic frottement, accompanied by obscure bronchial respiration and crepitus, showed that the right lung, with its investing membrane, had been attacked. The tongue now became dry and brown; the teeth were covered with sordes; there was some delirium; the respiration was very much embarrassed; the dysenteric stools still persisted; the features became altered; and she died finally on the sixth day from the development of the new train of symptoms.

At the *post mortem* examination a considerable portion of the lower lobe of the right lung was found to be solid, and of a dark purple hue. In colour it resembled nothing so much as the healthy spleen; its surface was roughened by recent lymph, but the quantity of false membrane present was scanty.

Four or five whitish or cream-coloured masses, varying from the size of a large pea to that of a marble, were situated at the base of the lung; in colour they contrasted remarkably with the splenified lung in which they were imbedded: when incised they were found to contain pus. In the right lobe of the liver, and near its posterior margin, there were three small abscesses perfectly isolated, and surrounded by glandular structure which was apparently healthy. Between the diseased portions of the lung and of the liver, the diaphragm alone was interposed. The large intestine from the cæcum to the anus was found in a state of extreme disorganization; its coats were thickened; its contents consisted of a greenish fluid, without any traces of true fæces, and of an abominable odour, almost approaching that of gangrene. The mucous membrane was extensively ulcerated; some of the ulcers seemed to have penetrated deeply into the walls of the gut, but there was no absolute perforation. The veins of the large intestine were examined with care, but I was unable to detect in any of them satisfactory evidences of inflammation.

Another girl, aged 29, was seized, on the fourth day of a second attack of acute dysentery, with a very severe rigor, followed by sweating, and a train of symptoms indicating high constitutional disturbance. Three days subsequently she complained of severe pains in the left elbow and in the right knee joints. On examination these articulations were found exquisitely tender to the touch or upon the slightest motion; there were also considerable puffiness in the neighbourhood of the affected joints, and some increase in the temperature of the integuments over them, but there was little or no redness. This girl had raved incessantly during the preceding night, and she was now so deaf that very great difficulty was experienced in getting her to comprehend questions. The respirations were hurried, from thirty-five to forty in the minute; the pulse was 130; and the skin felt unusually hot and dry to the touch.

Next day she was reported to have had a severe rigor during the night, followed, towards morning, by profuse perspiration. The dysenteric symptoms had continued unrelieved by treatment, no less than twelve stools having occurred from bed-time. She suffered much pain in the affected joints, so much so, that her screams during the night were distressing. Her skin was now of a yellow, dingy colour; the left elbow was flexed and swollen, and exhibited a dusky red patch of inflammation over the radio-humeral articulation; the right knee was swollen and exquisitely painful, but without any inflammatory blush: she complained also of pain in the left side, corresponding to the seventh and eighth intercostal spaces.

On the fifth day there was pain in the joint between the metatarsal bone and the first phalanx of the great toe of the left foot; there had been no rigors during the night, but her sweatings were profuse. She had a sunk look; her tongue was red and dry; the teeth were covered with sordes; the stools were still dysenteric and passed involuntarily.

On the sixth day she was apparently moribund; a mucocrepitant râle was heard over the lower and lateral part of the left lung; the pulse was intermitting, and about 160 in the minute. She died on the following night.

The *post mortem* examination took place twelve hours after death. On removing the calvarium, the dura mater appeared exceedingly vascular. It was covered with a profusion of bloody dots, and its veins in particular were remarkably turgid. A considerable deposit of pus was found between the dura mater and the mastoid process of the right temporal bone, in the course of the great lateral sinus. The dura mater was here fairly separated from the bone by the matter. There was no evidence whatever of any pre-existing disease in the bone, nor did the neighbouring sinus, although most carefully examined, display any appearance of inflammation. There were black coagula of soft consistence in the great lateral sinuses

and in the internal jugulars at either side of the neck, but these concretions did not adhere to the lining membrane.

In the pericardium a quantity of thin yellowish pus was found, and both the visceral and the parietal layer of this membrane presented intense arborescent vascularity. Of the lungs, the right was healthy; the lower lobe of the left was completely splenified: this portion of the organ was likewise remarkably soft and friable. When incised it exhibited eight or ten spots the size of split peas, out of which pure pus exuded on compression.

In the abdomen the large intestine was found diseased from one end to the other. Its mucous membrane presented every where the most extreme vascularity, but as usual the inflammation was most intense in the rectum and in the sigmoid flexure of the colon. From the cæcum to the anus the lining membrane was everywhere so soft that the slightest force by the nail was sufficient to detach it from the subjacent tissues. There were likewise several ulcers in different parts of the large intestine. These ulcers were solitary, their surfaces were sloughy, and the deepest and largest of them were situated in the upper part of the rectum; the small intestine was healthy; the liver was soft and friable, but it contained no pus; the gall-bladder contained a moderate quantity of greenish bile; the kidneys, spleen, and uterus were healthy.

The right knee-joint contained a large quantity of thin yellowish pus, but there was no softening or abrasion of the cartilages or incrustation. The synovial membrane over the front of the lower part of the femur was very vascular, but the vascularity could not be traced over the cartilages. There was also purulent matter in the left elbow-joint and in the metatarso-phalangeal articulation of the great toe of the left foot.

The veins of the large intestine were carefully examined, but without affording satisfactory evidence of inflammation.

The two cases here briefly related may be taken as good specimens of the class they are intended to exemplify. That in

each of them pus had entered the circulation, poisoned the blood, and determined the formation of local abscesses, will probably be admitted, whether with Cruveilhier we attribute the phenomena to phlebitis, or, with Velpeau and others, we admit *la doctrine de la résorption et de dépôt de pus*.

The large intestine, containing, as it often does in dysentery, remarkably fetid secretions, with its lining membrane softened, eroded, and sometimes semi-gangrenous, and with its walls more or less extensively ulcerated, would certainly appear to realize the conditions most likely to excite suppurative inflammation in the veins which take up the blood from its parietes; and it therefore seems exceedingly probable, although not actually proved by demonstrative evidence, that a phlebitis of some of the rectal or the colic roots of the vena portæ was the source of the constitutional disturbance, as well as of the local suppurations observed in the cases above described. Dr. Budd(*a*) has ably argued in favour of this view of the source of hepatic abscesses, when associated, as they often are in hot climates, with dysentery.

Amongst the complications of chronic dysentery a *peculiar form of dropsy* was certainly the most remarkable; by it many patients were cut off in a very unexpected manner, effusions into the serous membranes, or into the parenchyma of important organs, having suddenly taken place. At first the novelty of these cases attracted uncommon attention, but they soon became so frequent that their occasional occurrence was looked for almost as a matter of course.

A slight puffiness of the eye-lids, with an oedematous condition of the feet, were usually the earliest symptoms, and when these were once fairly established the patient was no longer safe from internal effusions. Of the serous membranes the arachnoid most frequently suffered; the pleuræ came next in

(*a*) See Diseases of the Liver, p. 61, by George Budd, M. D. London, 1845.

the order of frequency; the pericardium was more rarely affected; and the peritoneum almost invariably escaped.

The comparative immunity from effusion which the peritoneum enjoyed, appears to be a very remarkable circumstance in the history of this dropsy, particularly when it is recollected that the large intestine, the special seat of dysentery, is extensively covered by that serous membrane.

The symptoms which ushered in the cerebral effusions exhibited considerable diversity in different cases; very frequently death occurred with all the indications of an apoplectic seizure, the patient having become unexpectedly stupid and lethargic, a condition which was soon followed by stertorous breathing, total insensibility, and death. Many who appeared tolerably well and perfectly rational at bed-time, were observed to breathe heavily during the night, and became completely comatose before morning. The sudden and unexpected manner in which death thus occurred was the cause of much anxiety until repeated dissections showed the true nature of these cases.

In some patients marked cerebral excitement, characterized by a singular train of symptoms, preceded for days the fatal event. In a few, aberration of intellect, and even maniacal symptoms, were the precursors. Some became unexpectedly morose and taciturn, answering in monosyllables, and in the gruffest manner; this was soon followed by more decided indications, such as a constant rocking motion of the head, or severe and fatal general convulsions. Others again laboured for many days together under strange mental illusions, which ended in stupor or convulsions, the certain forerunners of death. Many who had been discharged apparently convalescent from the dysentery wards were brought back after a few days with œdematous feet, and more or less impairment of the mental faculties. The ward-masters complained that they wandered about the house in a state bordering on fatuity. When questioned their answers were slow and incoherent; they forgot

what they had said a few minutes previously; their speech was often thick, and their memory and reasoning powers were defective. Some of them would repeat the same words constantly in the most unmeaning manner, whilst others would reply to all questions in precisely the same words, often without any reference whatever to the queries put to them. These latter symptoms often occurred in persons beyond the middle periods of life, and were a sure indication that still more serious consequences were impending.

Few of these patients complained directly of the head, indeed there was in general a remarkable absence of pain in the affected organ; nor were there any symptoms to denote the existence of inflammation, or even of congestion of the brain. The scalp was neither unduly vascular nor hot; the conjunctiva was bloodless; the pupils were regular, and equally obedient to the influence of light. In one or two instances the pupils were contracted to the size of a pin's point, but these were evidently exceptional cases. The special senses were unimpaired, nor was there any paralysis.

In the end the pathology of all these brain affections was found to be pretty uniformly the same. Extensive serous effusions always existed, not only in the sac of the arachnoid, but also in the ventricles, in the subserous tissue at the base of the brain, and deeply in all the sulci, even those seated on the convexities of the cerebral hemispheres; in fact the disease was, in the fullest sense of the word, a dropsy of the arachnoid.

In the removal of the brain from the cranial cavity, an unusually large quantity of limpid serum always escaped. On laying the organ aside for even a few minutes, the table on which it stood was sure to be deluged by the draining of a similar fluid from the subserous spaces; and on stripping off the membranes from any part of the surface of the hemispheres, quantities of serum flowed out from each sulcus as it was exposed.

In no instance was lymph any where detected. In the ma-

jority the cerebral substance appeared healthy. In a few cases there was a sort of general softening of the organ, nothing like a defined ramollissement of any particular part of the encephalon, but a diminished consistence of the entire, sufficient to render the freshest brain unfit for anatomical purposes.

As a general rule there was no increased vascularity within the cranium; but in a very small proportion of the bodies examined, the veins of the dura mater were slightly congested; and the pia mater on the convexities of the hemispheres exhibited large vascular patches, which looked as if the parts had been daubed with florid blood. This hyperemia was scarcely sufficient to justify the inference that it was inflammatory, at most it seemed to be akin to certain passive forms of inflammation known to occur in states of the constitution which forbid depletion.

When the chest was about to become the seat of the dropical effusion, a short cough and slight dyspnoea generally gave timely warning of what was impending. In such cases the patients themselves were often little conscious of their approaching dissolution, their attention being altogether absorbed by the irritation of the bowels; death, nevertheless, frequently ensued with extreme rapidity, the hydrops pericardii, or the hydro-thorax, proving fatal as rapidly as the cerebral effusions above described.

Sometimes the chest symptoms predominated for days before death, the breathing being extremely embarrassed, and the sense of suffocation imminent.

In one case effusion set in with such frightful rapidity that death seemed to be inevitable. The stethoscopic signs of pleural effusion were however so evident, that in consultation with Mr. Shannon, it was determined, as a forlorn hope, to try paracentesis. The operation succeeded beyond expectation; a very large quantity of perfectly limpid serum was withdrawn by him from the left side of the thorax; immediate relief was the consequence, and the girl even recovered temporarily from

the dysentery, although she died in some months afterwards from the effects of a relapse.

The morbid appearances presented after death in this latter class of cases were pretty uniform. Limpid serum in large quantity was found in one or both pleural sacs, or in the pericardium, and the lungs, usually healthy in structure, were more or less compressed by the liquid contents of their serous membranes. Sometimes the pulmonary tissue was itself the seat of extensive œdema; the specific gravity of the lung was then much increased; it collapsed very imperfectly when the chest was laid open; its parenchyma was friable; and when incised, a surprising quantity of frothy, blood-tinged serum exuded from its cut surface, as if from a sponge.

Another very remarkable complication of chronic dysentery which I had many opportunities of witnessing was a singular variety of *spontaneous salivation*; it appeared only in cases of extremely protracted dysentery; and when present, it seemed to supersede every other symptom. On inquiry, the persons in whom it occurred were always found to have been for months, sometimes for many months, suffering from dysentery. Most of them complained of soreness of the mouth, simultaneously with the salivation; and on inspection, the cheeks, gums, and palate appeared slightly reddened, and the tongue morbidly clean, red, and tender; but there was no fœtor of the breath, no ulceration or swelling of the gums, the tongue, or the cheeks, nor were the teeth ever loosened. The quantity of saliva discharged in these cases was sometimes enormous, amounting to two, three, or even four pints in the twenty-four hours, and continuing at that rate for weeks together.

This salivation often assumed a periodic character, ceasing spontaneously in the morning, to re-appear about 2 or 3 o'clock, P. M., and to persist throughout the entire night.

I have in many instances known it to alternate with head symptoms, ceasing suddenly on the supervention of delirium,

convulsions, or maniacal indications, and re-appearing after an uncertain interval of time, with manifest relief to the brain. Sometimes this flux plainly alternated with profuse bowel discharges, and it even occasionally seemed to supersede and replace the œdematous condition of the extremities.

With some of the patients who suffered from this distressing sequela, mercury had been tried unsuccessfully many months previously; some had used no mercury, if their own statements were to be credited, and none certainly had been administered to them whilst under my care, as the disease was too far advanced for the mercurial treatment at the time of their admission into hospital. In no case was the patient taking mercury at the time of his seizure, nor had any of them for a considerable period before the salivation commenced made use of any mercurial preparation.

This flux evidently belongs to the same category with the dropsical symptoms already noticed; like them it occurred in the advanced stages only of chronic dysentery, and with many of those dropsical symptoms it actually alternated. Thus, when the salivation was profuse, there were no indications of cerebral effusions, and chest symptoms were absent; but no sooner had the discharge from the mouth ceased suddenly than marked determination to the arachnoid, or to other serous surfaces, arose.

A review of the entire of these complications shows that there was no single organic source to which they could be referred. The most minute examination of the kidneys failed to display the slightest appearance of disease in these organs. The heart was always healthy, at least it was free from any valvular disease or other lesion likely to obstruct the circulation, although it participated more or less in the general atrophy of the entire system. The salivary glands were more than once dissected with the greatest care, but the pancreas proved to be perfectly healthy, and the parotids, the sub-maxillaries, and the sub-linguals, afforded no satisfactory ex-

planation of the excessive discharges which had emanated from them during life. An anatomist would probably have said that they were less plump, and even paler than natural.

The liver alone, of all the glandular organs, was invariably diseased. It was usually soft enough to tear on the application of the slightest force, so that much difficulty was oftentimes experienced in removing it unruptured from the body; in this condition the fingers readily passed through its parenchyma, which, although perfectly fresh, broke down as if in an advanced stage of putrefaction: conjoined with this softening there was often extreme congestion of the liver. Under these circumstances the gland was gorged with black fluid blood, which flowed out in excessive quantities when the parenchyma was torn or incised. The softened condition of the liver was nearly constant, not so, however, the congestion; for, on very many occasions where even moderate pressure would have reduced the gland to a pulp, it appeared pale on the surface and almost bloodless when divided.

These organic changes in the liver can scarcely be held to have had any concern in producing the effusions, seeing that the liver was thus altered in almost every case of very chronic dysentery, whether dropsical symptoms were present or absent; and that, of all the serous membranes, the peritoneum alone was seldom or never the seat of effusion, although ascites is the form of dropsy most likely to be the result of hepatic disease.

To an altered condition of the blood we must, I think, attribute the cause of the mischief, for it is scarcely too much to suppose that this vital fluid becomes changed in its properties by the lengthened disturbance to the digestive processes and the consequent defective nutrition inevitable in every case of protracted dysentery. To produce healthy secretions in proper quantity, not only must the secreting surfaces be healthy, and the circulating organs free from obstruction, but *the materials out of which the secretions are elaborated must retain their natural*

properties; that they do so in chronic dysentery may well be doubted.

When the dropsical stage of dysentery has fairly set in the time for successful treatment has well-nigh elapsed. This stage may be prevented, it is but rarely cured. Some cases undoubtedly there are where the disease, from the very outset, is of so bad a type that the most judicious management fails to be of the slightest avail, but in a vast majority, dysentery commences with acute symptoms, which are readily enough subdued if energetically treated, and which gradually merge into the chronic form when neglected.

Later experience enables me to add but little to the *treatment* recommended for acute dysentery in a former communication(*a*), and therefore I shall here merely state that my confidence in the plan of treatment there detailed, but more particularly in the mercurial treatment, remains unshaken.

Chronic dysentery must be considered a very unmanageable disease; treat it as we may, the result is often unfortunate, few complaints being more intractable. I have no specific to recommend, nor do I believe that any such remedy has hitherto been discovered. Mercury, so powerful an agent in the *acute* disease, seldom fails to aggravate the *chronic*, whether used by the mouth or by inunction. Of most of the metallic tonics and astringents I must speak in doubtful terms. Nitrate of silver, sulphate of copper, and the trisnitrate of bismuth, variously combined, were fairly tried, and finally laid aside as being uncertain in their effects, although occasionally useful. The pure astringents were scarcely more successful. Logwood was a signal failure, so was tannin, so was acetate of lead, and I may say the same of matico, and other remedies of that class. The turpentine, no matter in what combination, were seldom borne by the stomach. Opium, although absolutely requisite for the relief of pain and irritation, yet proved wholly inadequate to

(*a*) Dublin Quarterly Journal, N. S., vol. vii.

cure the disease. Simaruba, tormentilla, and angustura, led to no favourable results; and although the mineral acids were sometimes of service, their exhibition frequently ended in disappointment.

The class of remedies to which, after many trials, I am most partial, are those which combine tonic with slightly astringent properties; and as tonics, bark and iron were certainly in my hands the most effectual. Decoction of bark, with lime-water, in equal proportions, very frequently succeeded. The compound infusion of sarsaparilla, with infusion of bark; the compound powder of chalk and opium, with the saccharine carbonate of iron; quina and opium in pills; the persesquinitrate of iron and tincture of opium; and even the compound iron mixture, were all in their turn advantageous. The mineral acids were sometimes of decided use in checking the salivation.

It is, however, upon a judiciously regulated regimen that the physician must mainly rely in his efforts to combat this truly formidable disease. In order to afford the patient the remotest chance of recovery, his system must be supported from the earliest stages of chronic dysentery. Arrow-root, sago, and such articles of food, well calculated as they are for the temporary relief of intestinal irritation, are but badly adapted for the formation of healthy blood. Eggs and milk are particularly suitable to dysenteric patients. The majority of them not only bear stimulants, but absolutely require them; and thus brandy and milk, egg-flip, and even wine, are occasionally necessary.

Dr. Graves has remarked, that "in chronic dysentery meat is far too much refrained from, and that many cases which obstinately resist the most varied remedies, assiduously employed, get well rapidly after a liberal allowance of meat is given to them"(a). To the truth of this assertion I can bear the most ample testimony, having often succeeded in this way after the failure of all other measures.

(a) *Clinical Lectures*, by Neligan, vol. ii. p. 238.

In hospital practice extreme attention to ventilation and cleanliness can scarcely be too highly estimated; *with crowded wards* no remedial measures can be successful.

In addition to other sanitary arrangements, the dysentery wards at the South Dublin Union Workhouse were all in their turn cleared, fumigated with chlorine, scoured, painted, and then furnished with new bedding; the entire process occupying about a week. During the late epidemic this plan was perseveringly carried out, and with the most favourable results; the inconvenience of always having a ward unoccupied being more than counterbalanced by the marked improvement of the sick.

If the patient be young, recovery sometimes occurs under circumstances apparently desperate; if he be at all advanced in life, the chances of a favourable result are greatly diminished. One case has been already mentioned, where paracentesis of the chest appeared to save the life of a girl aged about nineteen years; and in another instance a girl of 20, was reduced to a state of the most extreme emaciation, she was frightfully convulsed for several hours, and remained maniacal for many days, and yet she finally recovered, and left the hospital in perfect health. In the latter, blisters freely applied to the scalp and nape of the neck afforded relief to the brain.

In Dr. Latham's graphic description of the epidemic at the Millbank Penitentiary many details are given, which show a strong similarity between the disease observed by him and that which lately prevailed in Dublin.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Das Kramphafte Asthma der Erwachsenen. Von Dr. J. BERGSON.
Nordhausen, 1850. 12mo, pp. 149.

On the Spasmodic Asthma of Adults. By Dr. J. BERGSON.

THIS valuable Treatise on Asthma, by Dr. Bergson of Hamburg, obtained for the author the first prize offered by the Royal Society of Sciences at Göttingen. The subject of spasmodic asthma having been excluded from some of the best treatises on diseases of the chest, as belonging to the pathology of the nervous system, rather than to that of the lungs, and several points of diagnosis connected with it having been as yet but imperfectly examined, we are glad of the opportunity afforded of presenting to our readers a view of the most important portion of the contents of the work now before us, which we shall do, as far as possible, in the author's own words.

In conformity with the custom of most German writers of monographs, we have here a copious historical introduction. Not satisfied with beginning "at the beginning," that is to say, with Hippocrates, who is generally taken as the starting point on all medical subjects, we here commence with the Pentateuch. In Exodus, vi. 9 ("And Moses went and spake so unto the children of Israel, but they hearkened not unto Moses, for anguish of spirit and for the cruel bondage"), the Hebrew word translated by the Septuagint *ὀλιγοψυχία*, and by the Vulgate *angustia spiritus*, is used by the Hebrew writers among the Arabians to express asthma, or, in general, any difficulty of breathing. Passing similar notices on words of a like import in Homer, we enter on the medical authors, viz., Hippocrates,—Areteus Cappadox, who describes the symptoms of dry and humid bronchitis, constituting two kinds of his *ἄσδμα πνευμῶδες*,—Celsus, who first indicates the paroxysms and remissions

("dolor in pectore præcordiisque interdum etiam scapulis, isque modo decedit modo revertitur"),—Seneca, who suffered from the disease in his own person, having fits of about an hour's duration ("brevis autem valde, et procellæ similis impetus est, intra horam fere desinit"), but, not having received a medical education, was unable to assign a name to it ("uni morbo quasi assignatus sum, quem, quare Græco nomine appellem nescio, satis enim apte suspirium dici potest"),—we come to Galen, who made sections of the spinal marrow in different places in living animals, in order to demonstrate to his pupils the influence of it on the motions of respiration. These experiments differ from those by Le Gallois, Flourens, Longet, and others, in no respect except in the greater practical skill with which the latter were performed.

Our author next reviews the Arabians and the physicians of the middle ages; but, out of more than one hundred dissertations, *De Dyspnœa, Asthmate, et Orthopnœa*, nothing can be extracted which had not been derived from Galen or Celsus, and they afford no trace of original observation. At a later period Riolanus, the antagonist of Harvey, mentions idiopathic asthma as a disease under which he had laboured for thirty years. Van Helmont has the merit of having been the first to indicate the existence of a distinct nervous asthma, which he compared with epilepsy, and styled *morbus caducus pulmonum*; but it was reserved for our truly original, but unaccountably neglected English physician, Willis, to lay the foundation of an accurate knowledge of the disease. He clearly distinguished two forms of asthma, viz., pneumonic and convulsive(a), and attributed the latter to spasm (*fibrarum motricum spasmis*). Another English physician, Floyer, whose work "On Asthma" was published at London in 1698, although adopting the humoral pathology of his time, yet, having been a sufferer in his own person during more than half his life, has the freshness of an original observer. He named the disease *asthma verum flatulentum*. His treatment was founded on his own experience, and has been confirmed up to the present day. The work was translated into almost all the European languages, and repeatedly republished during the last century, as the standard authority on the subject.

At the time when the nosological systems were framed during the latter half of the last century, the existence of asthma as a distinct disease was overlooked by some, and it became confounded with dyspnœa and angina. There were, however,

(a) Opera omnia, Amstelodami, 1682, p. 207.

many who carefully avoided this confusion of terms, and who insisted on periodicity as the leading and characteristic symptom of asthma. Amongst these we cannot pass over Peter Frank, who uses these words:—"Asthma non habetur solum pro respiratione anxia cum sibilo et stertore, sed exposcit, ut simul *periodice* recurrat, libera prebeat intervalla et nullius alterius evidentis morbi sit symptoma."

Although the existence of spasmodic asthma is now universally admitted, yet there are many questions relating to its pathology still unsettled. In 1818 Rostan maintained that the symptoms of asthma, especially in old age, depend exclusively on a failure in the action of the heart and great vessels. Bouilland, in 1828, maintained that no case of asthma could occur without organic change in the organs of respiration and circulation. Laennec, and after him Rokitansky, although admitting the existence of spasmodic asthma, yet consider that dry bronchitis and emphysema are the most frequent causes of it. Romberg (Berlin, 1841) considers it as a spasm of the bronchial tubes, while also admitting it as a symptom of lesion of the par vagum; and Canstatt (Erlangen, 1843), while viewing it as a spasm of the respiratory organs, still considers it merely as a symptom of some other disease.

The symptoms preceding an asthmatic seizure are thus enumerated. On the day preceding the night of the attack there is frequently drowsiness, or tendency to yawn, and an indisposition for society, a dull frontal headach, sense of abdominal distention, and a feeling of dryness in the nose and larynx, which, according to Joseph Frank, in the case of a Russian prince, one of his patients, was always followed by a fit. In the case of a young man who suffered from the disease during many years, and in whom the fits always came on during his sleep at night, they were invariably ushered in by a convulsive twitch in the right foot, which commonly awoke him just before the seizure. A sudden development of flatulence is also frequent; and Floyer had remarked a fulness of the stomach, as the first threatening of a fit. Towards evening there is a general uneasiness, a sense of heat over the body, and an increased flow of saliva. The patient goes to bed, but finds the warmth uncomfortable. Cold drinks are sought for, and at last the feeling of weariness terminates in sleep.

The symptoms of the asthmatic paroxysm are the following. After the patient has slept several hours, generally up to 1 or 3 o'clock, A. M. he suddenly calls out, from the urgency of a sense of suffocation and constriction of the chest, which he is unable to expand. He gets up, endeavours to open the win-

dow, and supports himself with his hands and arms against a table or chair, so as to procure fixed points for the muscles required in laborious inspiration. The sound of the breathing can often be heard at a considerable distance, and this is especially the case with the inspirations, which are longer and more difficult than the expirations, so that several of the former may be heard for every one of the latter. The movements of the thorax are quite irregular; it is drawn more outwards, and then again pressed downwards, so that its parietes continue stiff and fixed, as if incapable of extension. All the muscles belonging to respiration are in a state of spasmodic contraction, especially the anterior muscles of the neck. The shoulder-blades are elevated like wings, and, from the contraction of the mastoid muscles, deep hollows are formed above and below the clavicles. There is also a hollow at the pit of the stomach, where it is connected with the insertion of the diaphragm.

In this state the patient can hardly perform any of the actions connected with respiration; even speaking becomes at times impossible, and when he coughs he is obliged to do so in the slightest manner.

The physical signs during the fit are, 1st, more audible mucous sounds in the larynx. 2nd, sibilant and sonorous ronchi, often changing place, accompanying both inspiration and expiration, at first dry, afterwards becoming moist, and terminating with a copious expectoration. These sounds are more audible in expiration than inspiration. 3rd. A diminution or entire suppression of the respiratory murmur. This, however, is attended with the peculiarity that the respiratory murmur may be brought back for a time by resorting to the experiment described by Laennec, Williams, Chapman, and others, which consists in the patient holding his breath as long as he can, and then gradually suffering the air to re-enter, whereupon, not only the natural degree of respiratory murmur, but sometimes even puerile respiration, is perceived. When this experiment is difficult, on account of the violence of the fit, it may be rendered more easy by allowing the patient to read or to count aloud, instead of holding in his breath, and on ceasing then the return of respiratory murmur ensues. According to Williams, however, in adopting this latter mode, after the first or second expiration which must take place in reading or speaking, spasmodic action comes on with renewed violence, and the respiration becomes as dull as before. The value of the experiment is, according to Chapman(*a*), so great,

(*a*) *Lectures on the Diseases of the Thoracic Viscera*, Philadelphia, 1844.

that he ranks it as the only diagnostic sign of pure asthma. 4th. The signs afforded by percussion are less distinct than those from auscultation. Some, as Geddings, Williams, &c., find the sound duller than in health, while it is clearer according to Andral, Romberg, and Lefevre. This discrepancy most probably has arisen from different degrees of emaciation in the subjects examined. According to our author's observations the sound is really clearer.

Passing over the sections on the idiopathic or sympathetic nature of asthma, and on the exciting causes and the prognosis (from page 32 to 69), we come to the treatment, in which we find no new course recommended. He enumerates, in the first place, the opiate treatment, then Hoffman's combination of opium with a solution of camphor and sulphuric ether; Ipecacuanha, which Heim gave with aloes in asthma, and also of late commended by Romberg and others, as acting specifically on the par vagum; smoking the lobelia inflata, as also smoking belladonna, hyoscyamus, and stramonium, as well as using them internally. Jackson preferred chloric and sulphuric ether, both internally and in the form of vapour; Rayer(a), painting the interior of the throat with liquid ammonia. He quotes several instances to illustrate the influence of various agencies, e. g.(b) one in which the paroxysms were, contrary to what is usually the case, much more violent whenever the patient was in wide, expansive situations, as at the surface of the sea. Indeed visible objects appear to have extraordinary influence. Thus Laennec relates the case of a count, eighty-two years of age, in whom the darkness of night caused invariably an accession of asthma, so that it came on whenever his night lamp happened to be extinguished. Lefevre observed in his own case that the fits coming on in the dark were decidedly the severest, and a similar observation was made by another physician, Kohlschutter, on his own case.

Having detailed a number of experiments from various sources, as the result of which our author considers himself justified in the conclusion that the asthmatic fit consists in a spasmodic contraction of the bronchial and pulmonary air-cells, caused by the action of the par vagum on the muscular fibres in these structures, so that he thinks it may properly be termed *spasmus bronchialis*, he divides it into two kinds: the first proceeding from the brain (cerebral asthma), and the second from the spinal marrow (spinal asthma).

(a) Annales de Therapeutique, 1845.

(b) Gedding, Baltimore Journal, 1834.

In cerebral asthma the seat of the disease is in the brain. Jolly(*a*) found in an individual who died with the well-recognised symptoms of an asthmatic fit, a degeneration of the substance of the brain at the base, towards the origin of the eighth pair of cerebral nerves, and unaccompanied by any diseased appearance in any other organ. Georget(*b*) found changes of structure and of colour so often in the brain of asthmatic subjects, that he considered this organ as the seat of the disease. A case has been related by Simpson(*c*) of a man who from drunkenness became comatose. His breathing was laborious, accompanied by a loud sound, and he appeared in imminent danger of suffocation. Tracheotomy was performed, under the conviction that the respiration was impeded in consequence of oppression of the par vagum and recurrent nerve, and that the want of arterialized blood re-acted on the brain. The consequence was immediate, and the restoration of the patient almost instantaneously effected. The disease of horses known by the term *roaring*, which is, in one of its forms, properly asthma, was, in a case related by Liegard (1836), when the animal was in the most violent fit of it, so that he could be heard at a distance of thirty feet, completely and at once removed by bleeding performed under the opinion of its being connected with oppression of the brain, which the subsequent history of the case confirmed.

In spinal asthma the influence of the brain on the function of respiration remains undisturbed, but that of the spinal system is preternaturally excited, producing contractions in the bronchial tubes.

Spinal asthma is of two sorts, viz., centric and excentric.

Centric spinal asthma has for its seat that portion of the spinal marrow which, according to the experiments stated at large by our author in the preceding section of the work, is the source of the nerves of respiration. Any irritation applied to it may produce asthma in its most distinct form; such as wounds, acute or chronic inflammation, effusions, pressure from tumours, and other diseases, all of which have been found connected with asthma. For such the reader is referred to Ollivier, Bright, and Charles Bell's cases. To this same division is properly to be referred that large class of cases of spinal neuralgia, where asthma is produced in consequence of congestion of blood affecting the spinal marrow. The characteristic symptom of this is that peculiar tenderness perceived at certain

(*a*) Bib. Med. 1822.

(*b*) *Physiol. du Syst. Nerv.*

(*c*) *Med. Chir. Trans.*, vol. xx.

parts of the back which often exists in cases of spasmodic asthma, but is unnoticed and disregarded by the patient. As an illustration we have two cases referred to, one of a girl twenty years of age, who suffered from pain in the region of the stomach and colon. In her case asthmatic difficulty of breathing resulted whenever the upper dorsal vertebræ were pressed. The pain is most frequently felt about the seventh and eighth vertebræ. In the other case, a man fifty years of age, pressure on these vertebræ caused panting and a suffocative cough. The case of a teacher is described by Enz(a), in whom, pressure being applied on the inferior cervical or superior dorsal vertebræ, he felt difficulty of respiration; but when the pressure was applied to the middle dorsal vertebræ, then he had spasmodic cough with great constriction of breathing. Lefevre, in the description of his own asthma, which lasted a year, states that he often experienced a periodically returning pain in the back, at the part where the trapezius is inserted, and also in the spinous process of the cervical and dorsal vertebræ; and before the discoveries of late years, Jos. Frank(b), in noticing the pain of the scapula in asthma, said:—"Si agitationem musculorum thoracis sub asthmatis insultu consideramus suspicio columnam vertebralem ex qua illi muscoli nervos accipiunt interdum non plane immunem esse."

Excentric Spinal Asthma.—In this the nervous centre is free from disease, and the irritation is conveyed from without; but as this may be in three different ways, viz., in the reflex nerves or in the ganglia, or, which is the most unfrequent of all, in the motor or centrifugal nerve, we divide excentric asthma into reflex, ganglionic, and motor asthma.

Reflex Asthma may be produced from disturbance of the digestive system, as from dyspepsia, the abuse of spirituous liquors, or intestinal worms, &c. Thus Floyer relates that whenever he took punch, he suffered from difficulty of breathing. Lefevre experienced the same from any kind of spirituous liquor; and there are many instances in Jos. Frank's work and elsewhere, of asthmatic fits being produced by the presence of worms. Turning to comparative pathology, Regnault(c) relates that he and Delafond saw the *lathyrus cicera*, which is much cultivated in the south of France, produce the most violent *roaring* in horses, who, during the intervals, were completely free from the complaint. It is to be observed that Orfila ascribes poisonous qualities to this plant, and says that,

(a) Rust's Mag. 1834. (b) Prax. Præc. Lips, 1823. (c) Le Veterin, t. 8.

when mixed up with wheaten flour, it may cause partial paralysis of the lower extremities.

A second cause of reflex asthma is irritation of the mucous surface of the bronchial tubes. Thus asthmatic fits are often excited by breathing dust, the pollen of grass in flower (hay asthma), acrid gases, vapours of lead, &c. Several cases are recorded of the same from powdered ipecacuanha; also from the odour of sun-flower or hyacinths. Lefevre mentions how he suffered from the smell of a heap of apples, from the dust whenever carpets or draperies were shaken, and especially how he always was attacked with a fit whenever, during a six months' voyage, he was exposed to the vapours of chlorine. To this head also belong the difficulty of breathing produced by the fumes of lead, which has been termed lead asthma. Many cases of *roaring* in horses employed in lead works have been recorded. Many similar cases in the human subject, both from inhalation and from cutaneous absorption, are given in Tanquerel's work (Paris, 1830). Trousseau relates the case of a painter in the hospital at Tours, who had often suffered from lead colic, but who was attacked with the most violent asthmatic difficulty of breathing, under which he died, and on examination the lungs were found perfectly healthy. There is also an instructive case of periodical spasms of the thorax in Laner (1846).

A third cause is irritation of some portion of the par vagum itself. When, by compression from tumours, &c., the nerve of one side is atrophied or injured, this becomes paralysed, and the nerve of the opposite side is thrown into a state of preternatural activity, and thus the phenomena of asthma ensue.

Our author will not admit the existence of asthma as a paralytic affection, as he considers it to be essentially a disease of spasm. In the London Medical Gazette for 1843, there is a case of aneurism of the arch of the aorta, in which, at the commencement, there was a weakness of the voice which afterwards was succeeded by orthopnœa. At last the voice changed into a kind of squeak, which Jackson considered to be the effect of narrowing of the glottis and distention of the chordæ vocales from over-action of the crico-thyroid and sterno-hyoid muscles. On examination, after death, the left recurrent was found to have been carried round the entire of the aneurismal sac, which extended towards the axilla; it was hard, red, and involved in the structure round the cavity. The part of the nerve behind the sac was flattened, its fibres separated, and completely disorganized.

Huguier(*a*) relates a case of aneurism of the aorta which had caused atrophy of the left recurrent. The patient from time to time laboured under accession of urgent suffocation, resembling sometimes that of croup, and at another that of œdema of the glottis. To these cases may be added that described by Lawrence(*b*). A similar compression of the vagum or of its branches was considered by Burns(*c*), as the cause why small tumefactions at the neck often cause greater disturbances of respiration than could be anticipated from their size. This is explained by Romberg by the greater rapidity in such cases being attended with greater irritation.

Rush describes, under the term asthma, the case of a man twenty-two years of age, who laboured under fits of threatening suffocation, with a loud noise in respiration, and in whom there was a tumour the size of a walnut at the left side of the trachea, which pressed on the part of the vagum lying between it and the œsophagus. Montault(*d*) had under his observation a woman affected with asthmatic fits, accompanied by croupy cough. On examination after death, he found both recurrences compressed by a large deposit of encephaloid structure.

A fourth cause is the influence of mental emotions, as anger, terror, &c. A curious case is related by Stiebel, in which a hypochondriac appears to have produced the disease merely by imagining that he was to have it.

Ganglionic Asthma.—Here the diagnosis is difficult, and has consequently been for the most part overlooked. It depends on the disorder of sensation being antecedent to that of motion, which may easily escape detection, unless both patient and physician are endowed with a spirit of observation. Consequently we are mostly obliged to proceed by negatives in establishing the diagnosis between it and the other kinds of asthma. The following case, described by Niese (1846), affords a specimen. A seafaring man of thin habit, but who had previously enjoyed good health, for some time began to experience every night a violent pain at the pit of the stomach, extending up to the breast. He soon was unable to lie down, and was obliged to sit upright with the fear of losing his breath, and of impending suffocation on making any motion. After some duration of difficult breathing, a violent cough supervened. These symptoms lasted the entire of the following night, and thus deprived him of his sleep till morning. The

(*a*) Archives, 1834.

(*b*) Med. Chir. Trans., vol. vi. p. 227.

(*c*) Surgical Anatomy of the Head and Neck, p. 47.

(*d*) Jour. Hebd., t. ii.

disease, however, developed itself in a periodic manner, with complete intervals of freedom from complaint. Having undertaken the laborious employment of a wood-cutter, he increased his muscular vigour; but his fits of asthma came on both by day as well as night, leaving, however, free intervals during which he could even take long walks without the slightest inconvenience. The appetite never was affected, but the bowels were torpid. The examination of the chest detected no disease. There was no irregularity or tenderness of the spine, and thus he concluded that there was no spinal irritation.

These negative facts led Niese to the conclusion, that he had here to deal with a nervous affection, which, although bearing much resemblance to angina pectoris, yet in several points differed from it; and inasmuch as angina depends on the cardiac ganglia, so may it, as well as the present case, be justly enumerated as one of ganglionic asthma. As impartial reviewers, we may here take this opportunity of remarking that we should have referred most of the symptoms in the above case to the presence of narcotic gases in the colon, connected with the torpidity of the bowels, and should have directed our treatment in that direction. We are informed, however, by our author, that Niese was induced by the opinion he had formed, to resort to the employment of belladonna, opium, and valerian, which were attended with good effects.

Motor Asthma.—To this class belong all those cases in which either the muscles or the bones concerned in the motions of respiration are incapable of obeying the impulse conveyed to them from the nervous centre. Rickets, Pott's curvature, and other diseases of the bones of the thorax, are often attended with asthma. Stromeyer first (1836) directed attention to the peculiar kind of paralysis of certain of the muscles of the thorax, which deprives them of the power of assisting in respiration, but leaves them in full possession of their power of acting as voluntary muscles. The necessary consequence of this is, that the symmetry of the chest is destroyed. When in young dogs a small portion of the upper part of the nervus thoracicus posterior was cut off, the corresponding part of the chest was after three days found to have sunk, and this sinking went on increasing, till at the end of fourteen days there was a difference of from five to six lines in the convexity of the two sides. In the human subject the serratus anticus and the trapezius sometimes become paralysed, especially in childhood and in young girls, producing that deformity so well known by the name *chicken-breast*. It may also come on in adult age, and affect both

aides alike. It may then make its appearance under the form of spasmodic asthma, with evident paroxysms. Such cases are described in the works of Shaw and Charles Bell. They exhibit periodic asthma arising from respiratory paralysis of the muscles of the thorax, so that the functions of the latter are in a measure vicariously performed by the abdominal muscles. When however, these, as in sleep, are not able to fulfill that office, there will result a danger of the asthmatic paroxysm in its utmost intensity, and of suffocation. The occurrence of paroxysms of this kind in hysterical cases is the subject of the following important observation by Romberg:—"Quod si medici qui in morbis asthmaticis modo cor et pulmones explorare consueverunt, ad thoracis motus majorem attentionem deferant, sæpe-numero ad dignoscendam mali naturam plus lucis iis suppeditabitur."

The most interesting part of our author's work is that in which he presents us with tabular views of the diagnosis between spasmodic asthma and the other affections which are accompanied by asthmatic paroxysms.

I.—BETWEEN IT AND ANGINA PECTORIS.

A. *Symptoms in Common*.—The accessions coming on suddenly, with distress of breathing. The countenance, during the accessions, equally altered and anxious, the eyes prominent, and the cheeks colourless; the pulse weak and small.

B. *Distinguishing Symptoms*.

IN ANGINA PECTORIS.

1. The distress overpowering and accompanied by a feeling as of approaching death. The anxiety indescribable, and the seat of it under the sternum at the pit of the stomach.

2. The distress, however violent, yet not interfering with respiration.

3. The paroxysms usually occurring in the day time, and coming on while the patient is walking, standing, or speaking.

4. The respiratory motions never violent, and not visibly disturbed, except inasmuch as it may arise from the general state of distress. No peculiar dyspnoea, and the patient can often,

IN ASTHMA.

1. The distress not so intense and not limited to any one point but extending throughout the whole chest.

2. The breathing confined, and the constriction producing a sense of approaching suffocation.

3. The paroxysms almost always occurring at night, when the patient is in bed.

4. The respiratory motions irregular and laborious; the thorax impelled up and down, but without having its capacity expanded. Hollows formed above and beneath the clavicles. The

by a strong effort, take a deep inspiration, even while the paroxysm is most severe.

5. The painful sensation which is at first confined to the cardiac region extending in all directions, and especially lodging in the left arm.

6. The heart's action but little changed. No alteration appreciable to auscultation or percussion.

7. The accession terminating with eructations or yawning, but with no vomiting.

patient, even with the strongest efforts, cannot take a deep inspiration. Respiration seems at times to become almost impossible.

5. No such phenomenon occurring.

6. The action of the heart unchanged, but there is a sibilant ronchus, with failure of the respiratory murmur.

7. The accession terminating with copious bronchial secretion.

II.—BETWEEN IT AND SPASM OF THE THORAX (I. E. OF THE EXTERNAL MUSCLES CONCERNED IN RESPIRATION).

A. *Symptoms in Common* between asthma, which is a spasm of the bronchial tubes, and spasm of the external muscles, are, that in both respiration is affected suddenly and in paroxysms; the chest and shoulders are convulsively raised and depressed; and the difficulty of breathing approaches suffocation. The patients in both are unable to speak, but, once the paroxysm has terminated, are then completely freed from all pain or obstruction in breathing.

B. *Distinguishing Symptoms.*

IN SPASMS OF THE THORAX.

1. Respiratory murmur perfectly natural.

2. Dyspnoea present only in proportion to the degree in which inspiration is impeded by the spasmodic action of the external muscles.

3. The paroxysms mostly during the day.

4. The spasm never occupying more than one-half of the chest.

5. The spasm ceasing without any critical evacuation.

IN ASTHMA.

1. Respiratory murmur almost extinct.

2. Dyspnoea to such a degree that both inspiration and expiration become equally constrained, with a feeling of internal oppression.

3. The paroxysms at night.

4. Asthmatic oppression over the whole chest.

5. The paroxysm terminating with an abundant expectoration.

III.—BETWEEN IT AND PARALYSIS OF THE THORAX.

A. *Symptoms in Common.*—Dyspnoea coming on in a paroxysm at night during the first sleep. In both cases the patient complains of inability to expand the chest in respiration.

*B. Distinguishing Symptoms.***IN PARALYSIS OF THE THORAX.**

1. Some degree of deformity in the breast or back from defect in the action of the nerves supplying these parts. Hence arise curvatures, inequality in the height of the shoulders, or chicken-breast.

2. Laborious respiration can be produced merely by pressing on the abdomen, which renders evident the deficient action of the muscles of the chest.

3. The most frequent subjects of the disease are delicate young persons before puberty, and it often arises from hooping cough.

IN ASTHMA.

1. No necessary deformity, except that the chest appears distended like a barrel.

2. During the intervals pressure on the abdomen produces no approach to asthma.

3. Asthma generally attacks men of strong constitution, and without any previous disease.

IV.—BETWEEN IT AND INTERCOSTAL NEURALGIA.**IN INTERCOSTAL NEURALGIA.**

1. The pain is in the space between the ribs, and follows the course of the intercostal nerves from their origin at the vertebræ to their termination at the sternum.

2. Pressure at the origin of the affected nerve always produces pain.

3. The disease occurs especially in females, and principally in women of sensitive habit.

4. No morbid phenomena detected by auscultation or percussion.

IN ASTHMA.

1. The painful sensation diffused indefinitely over the whole chest, and not confined to the course of any nerve.

2. Pressure on the spine, unless spinal irritation be present, is unaccompanied by any painful sensation.

3. It mostly attacks men of robust constitution.

4. During the accession there is either a mucous or sibilant ronchus.

V.—BETWEEN IT AND HYPERÆSTHESIA OF THE PULMONARY PLEXUS.

Laennec distinguished this kind of asthma, in which, notwithstanding a sensation of inability of adequately breathing, which is felt in the highest degree, yet the expansion of the chest goes on well, and the respiratory murmur is not only undiminished, but rather assumes the character of puerile respiration. This he designated as asthma with respiration.

Along with Canstatt and Romberg (Berlin, 1846), our author is inclined to consider this asthma as a hyperæsthesia of the lungs, and as having its seat in the sensitive portion of the par vagum, in the same way as he considers spasmodic asthma to have its seat in the motor portion of the same nerve.

A. Symptoms in Common.—Accessions coming on suddenly and characterized by violent dyspnœa, incapacitating the patient from doing anything as long as it lasts. In both there are often catarrhal symptoms.

B. Distinguishing Symptoms.

IN HYPERÆSTHESIA OF THE PULMONARY PLEXUS.

1. The accessions occurring mostly in the day, and aggravated by any movement of the body.

2. Respiration goes on well, and on auscultation is discovered to be puerile.

3. The expression of the countenance unaltered.

4. Expectoration during the accession is easy, but yet not attended with any relief.

IN ASTHMA.

1. The accessions coming on at night, and relieved, in some measure, by pressing down on the arms.

2. The respiratory murmur is oppressed.

3. During the accession the countenance is contracted and anxious.

4. Expectoration not occurring till towards the termination of the accession, and always attended with relief.

VI.—BETWEEN IT AND RESPIRATORY PARALYSIS OF THE PAR VAGUM.

Respiratory paralysis was first pointed out by Romberg(a), and he made two divisions of it, viz., the first, paralysis of the vagum, which influences the respiratory muscles of the larynx; and the second, paralysis of the spinal nerves supplying the respiratory muscles of the trunk. The last is the paralysis of the thorax of No. 3. The disease now before us is occasioned generally by pressure of indurated glands, or other tumours on the par vagum or some of its branches, and presents symptoms which may readily be mistaken for those of asthma.

A. Symptoms in Common.—Accessions coming on suddenly, and having intervals perfectly free from oppression. In the paroxysms the distress often amounts to approaching suffocation, with the formation of various bronchial sounds, while the respiratory murmur is enfeebled.

(a) *De Paralysi Respiratoria*, Berol. 1845.

B. Distinguishing Symptoms.**IN RESPIRATORY PARALYSIS OF
THE PAR VAGUM.**

1. The attacks come on after any considerable motion of the body, and cease as soon as the patient lies down again.

2. The voice in the course of the disease assumes a whispering or hoarse sound, or is reduced to complete aphonia.

3. The disease mostly attacks scrofulous children, arising from pressure of tumours in the neck.

IN ASTHMA.

1. The paroxysms coming on during sleep and when lying down, and are relieved by sitting up.

2. No changes of the voice or of speech.

3. Occurring rarely except in adult age, and without any traces of lymphatic swellings in the throat or neck.

VII.—BETWEEN IT AND NIGHTMARE (INCUBUS).

A. Floyer had already recognised a resemblance between asthma and nightmare, inasmuch as the latter comes on in sleep, and produces laborious respiration with moans, the chest being compressed as by a superincumbent weight, and the patient in all the horrors of approaching suffocation; and Romberg, in his late work, has placed it among his hyponeuroses.

B. Distinguishing Symptoms.**IN NIGHTMARE.**

1. As soon as the patient is completely awakened, all the feelings of approaching suffocation are at an end.

2. While in the fit, notwithstanding the greatest difficulty of breathing, yet the patient is unable to move his limbs or to call for help.

3. Auscultation detects no abnormal sound.

1. The asthmatic fit at once wakens the patient out of sleep, who, though completely roused up, yet has to seek the upright posture in order to breathe more freely.

2. The patient gets up, and is able to assume the easiest position.

3. The respiratory murmur is oppressed.

VIII.—BETWEEN IT AND PNEUMOTYPOSIS.

A. *Symptoms in Common.*—Pneumonia, bronchitis, and pleurisy, when occurring in an intermittent form, are included by our author under the one name, pneumotyposis, and in this form they agree in resembling asthma, by reason of the suddenness of their accessions, and from their recurring in paroxysms.

B. Distinguishing Symptoms.**IN PNEUMOTYPOSIS.**

1. The paroxysm commencing with a rigor, and the oppression in the chest not decidedly manifest till the hot stage.

2. The paroxysm occurring at regular periods, and thus assuming the character of quotidian, tertian, &c.

3. Auscultation and percussion reveal the existence of pneumonia, bronchitis, or pleuritis, which still continues in some degree during the intervals.

IN ASTHMA.

1. The paroxysm commencing without any change of temperature, and the severest difficulty of breathing coming on from the beginning.

2. A much inferior tendency to regularity in the return of the paroxysms.

3. The symptoms to be detected by auscultation, and especially the mucous sounds coming on chiefly towards the end of the paroxysm.

IX.—BETWEEN IT AND SUBMUCOUS LARYNGITIS OR ŒDEMA OF THE GLOTTIS.

A. Symptoms in Common.—The patient is seized with a fit of suffocation, which soon attains its highest degree. The countenance becomes congested, the eyes starting from the orbits, and at the same time the extremities become cold: in short, presenting the appearance of asthma in its severest form.

B. Distinguishing Symptoms.**IN ŒDEMA OF THE GLOTTIS.**

1. Inspiration produces no painful sensation in the chest, but only in the larynx, to which the patient refers all his difficulty of breathing.

2. Every effort to draw in the breath is accompanied by a wheezing sound.

3. Expiration goes on uninterruptedly.

4. The patient thinks there is some large foreign body in his larynx, which he would gladly get rid of.

5. The suffocative attack lasts only from two to four minutes.

6. It returns in from five to ten minutes.

7. The cough is dry and of a croupy sound.

IN ASTHMA.

1. The impediment to inspiration is proved to be not so much in the larynx as in the chest.

2. Inspiration takes place without any peculiar sound in the larynx.

3. Expiration and inspiration are equally difficult.

4. No sensation as of a foreign body in the larynx.

5. The asthmatic attack lasts several hours.

6. It returns at the utmost in about every twenty-four hours.

7. The cough moist and with the usual sound.

Although some of the propositions above quoted do not exactly agree with our experience, and although there are some to which considerable additions ought to be made, yet the work appears to us of great and remarkable value, not so much from the facts actually detailed, as from the peculiar path of inquiry which it opens. It must be acknowledged that the mechanical action of respiration is so entirely under the dominion of the muscular part of the apparatus, and this again so much under the dominion of the nerves, that the function is but imperfectly considered when examined exclusively by means of percussion and auscultation. On these grounds we cannot conclude without bestowing our very hearty commendation on our author's performance; and we indulge a hope that even this short epitome of it may communicate an impulse on the subject, and cause the nervous department of thoracic pathology to receive that share of attention which it certainly deserves.

On the Management of Infancy; with Remarks on the Influence of Diet and Regimen. By CHARLES HOGG, M. R. C. S., L. A. C., &c. London: Churchill. 1849. 12mo. pp. 132.

"ZEAL for the utmost melioration of human ills is not a sufficient justification for stepping before the public with medical remedies; when, however, to a consciousness of sincere motives are added watchful observation over a period of twenty years, and a constant practical experience, perhaps unusual both in kind and extent, especially in cutaneous diseases and scrofula, it may not be deemed arrogant to report the results of treatment, the benefits of which have been incontestably proved."

Such are the chief reasons which prompted Mr. Hogg to this, his first attempt at medical authorship. Had he contented himself with simply recording the results of his "unusual" experience in cutaneous diseases and scrofula, he would, we think, have acted more judiciously. Instead of this he has produced a medico-popular work, which treats very imperfectly on a number of subjects having little or no connexion with each other, and some of them still less with the title-page, except the accidental one of being bound in the same cover. In common with nearly all works of this class, intended for the profession and the public, it defeats its own object, and is ill adapted to either.

The physician will find in it little that he did not know

before, and the "general reader" will necessarily meet with much that he cannot comprehend. Discarding these considerations, however, we shall glance at the few points really deserving of attention in the book, and be ready to bestow a full share of praise where this seems to be deserved.

Twelve pages of introduction, containing some general remarks on digestion and diet, constitute Chapter I. The author very properly insists on the vast importance of a strict regard to dietetic rules in the management of children and invalids. We cannot perceive that he advances anything new, unless indeed the following, which appears the more extraordinary, coming as it does immediately after a quotation from the work of Liebig:

"We do not think it is of such weighty importance, in reference to the nourishment of the body, whether the food is nitrogenous or not, seeing that the ultimate effect of all aliment is the same. There is but little difference between the flesh of carnivorous and herbivorous animals. . . . It is in the experience of most persons, that the degree of feverish excitement is greater after a full meal of animal food than one of a purely vegetable character. Although we are told that animal food is more analogous in composition to the recipient, yet we assert that in practice there is more expenditure of vital power necessary for its digestion and assimilation."

We are at some loss to know what the author intended to convey in this latter sentence. He cannot possibly mean by it that animal food is more difficult or slower of digestion than vegetable; for though, unquestionably, the former is more stimulating, still the highest authorities agree in considering it to be easier of assimilation than food derived from the vegetable kingdom. The use of butter by persons suffering under scrofulous complaints is most strongly condemned, but, as appears to us, on very insufficient grounds. Where the digestive powers are impaired it should certainly be prohibited, but otherwise there can be no reasonable objection to its employment as an article of diet.

Chapters II. and III. (occupying twenty-eight pages) are taken up with the hygienics of infancy and childhood. His observations, so far as they go, are very good, but the author makes no addition to our knowledge on this subject, nor does he give anything like so much information as is to be found in the works of Drs. Combe, Underwood, Conquest, Dewees, Churchill, and several others. Many well-chosen quotations from the writings of some of these authors occur, and contribute not a little to the value of this portion of the book. Mr. Hogg seems to be imbued with a very strong prejudice against

the use of animal food for children. If his remarks be intended to apply to solid animal food only, we should not perhaps dispute their soundness; but if animal broths, such as beef-tea, chicken or veal broth, &c., be included in the interdict, we must beg leave to differ with him, as we feel convinced that very few children, after they are twelve months old, will be injured, and many will be benefited, by the occasional and moderate use of animal food in this form.

The fourth chapter gives a brief notice of the different kinds of baths, and the rules to be observed in their employment. He extols much the vapour bath for its great efficacy and extensive utility, and feels "perfectly assured that the prejudices of medical men, with regard to the use of the vapour bath, arise solely from ignorance of its effects." Though of opinion that this observation was uncalled for, still we are free to confess our belief, that the vapour bath, as a therapeutic agent is one of great power, and not by any means so often employed as it might be, even with all its attendant inconveniences. From the consideration of these cutaneous applications, as we may term them, our author passes to "cutaneous eruptions," and under this head makes some highly practical remarks upon herpes, porrigo scutulata, ichthyosis, lepra, and psoriasis. In the treatment of the two first of these, he recommends highly the use of a liniment consisting of an ounce of citrine ointment, two ounces of cocoa-nut oil, and three ounces of lime water; it should form a liquid of about the consistence of cream, but of darker colour; and to one ounce of this he adds from twenty to thirty drops of hydrocyanic acid (Scheele's strength). This would appear a good combination, and better calculated to bring the elements upon which its efficacy depends into close contact with the diseased part, than when applied in the usual form of ointment. For the cure of both these eruptions, he deems it very essential that the patient be restricted to a milk and farinaceous diet. This is a point which has already been strongly insisted on by Dr. Neligan(a). His description of porrigo scutulata is far from accurate. It would indeed apply with more correctness to impetigo capitis, as the essentially characteristic appearances of the former disease are not stated, while he describes it as being *pustular*. The unusual success, too, which seems to have attended the author's treatment, would almost suggest a doubt as to whether all the cases alluded to were really examples of favus. Besides regulating the diet and improving the general health, he occa-

(a) See the Number of this Journal for August, 1848, p. 29.

sionally orders the vapour bath; and the topical treatment consists in removing the scabs by frequent poulticing, and then applying the liniment already mentioned, alternately with an ointment having calomel for its active ingredient. This would appear a simple enough mode of treatment, and not so much differing from what has been over and over again tried ineffectually in favus, as to explain its extraordinary success in his hands.

The next chapter is upon "scrofula, or king's evil." In his treatment of the various forms of this disease there are three points which hold an exalted place in his estimation, viz., a farinaceous diet, the casual employment of the vapour bath, and the internal administration of decoction of polygala Senega. This last is, we believe, a new remedy for scrofula; and if it proves deserving of the high encomiums bestowed on it by Mr. Hogg, he will be entitled to the thanks of the profession for calling their attention to its anti-strumous properties. He does not recommend it as a specific, but says that "in his hands it has been more successful than any other remedy." It may be well just to state his mode of preparing and using this medicine.

"One ounce ought to be slowly boiled in a quart of water for three or four hours(a). The usual dose for adults is, from one to two fluid ounces, three times a day. We have tried it in all forms for many years, but we prefer the decoction to any other. It appears to have an almost direct influence on the glandular system, determining to the skin, and exciting the peristaltic action of the bowels; it is a powerful expectorant, and possesses diuretic properties."

Several cases are recorded by Mr. Hogg, in which this remedy was employed (though not to the exclusion of others), and in all of them was followed by satisfactory results. He has had a very limited experience of the use of cod-liver oil, "having only prescribed it in two cases of scrofula, and one of phthisis, in all of which the most marked results have followed."

Chapter VII., on "hepatic, or liver disorders," commences with some common-place physiological observations, respecting

(a) The investigations of pharmaceutic chemists have shown that, by prolonged boiling, the active principle of senega is formed into an insoluble compound with some of the constituents of the root; and, consequently, in the last editions of the Dublin and Edinburgh Pharmacopœias an infusion is substituted for the decoction. We would, therefore, recommend any of our readers who may be induced to try Mr. Hogg's plan of treating scrofula, not to adopt his method of prescribing it.

the liver and biliary secretion. These he disposes of in a sort of collective manner, without any attempt at classification, or pathological distinction; his sole object being to bring under notice the use of the extract of taraxacum. This medicine was at one time much esteemed in the treatment of liver diseases, and was greatly cried up by Dr. Pemberton; indeed it was mainly his extravagant praises that gained for it its high character in these complaints. Latterly it seems to be rather falling into disrepute, in consequence, we suspect, of the impurity of the article, as generally found in the shops, or else owing to some defect in the quantity administered or mode of administration. Though Mr. Hogg tells us little that is novel respecting the therapeutic action and uses of this medicine, yet, he makes his readers acquainted with a class of pharmacopolists, whose name and occupation is probably new to many of them, and whose preparation of the herb it is that he employs with such success. These are a religious sect, denominated "the Shakers of New Lebanon," who devote their time principally to the cultivation and gathering of medicinal plants, and the preparing of extracts from the same. He states that the extract of taraxacum prepared by them contains at least double the quantity of the active principle, and is much more powerful in its operation than any he has been able to obtain in England. He agrees with Dr. Pemberton in thinking that this remedy is peculiarly advantageous in chronic hepatitis. He has also found it most beneficial in numerous cases of jaundice. Mr. Hogg concludes his work with an appendix containing some brief remarks on the dietetic properties of the various articles of food and drink in ordinary use.

On Animal Chemistry in its Application to Stomach and Renal Diseases. By H. BENCE JONES, M. D., &c., Physician to St. George's Hospital. London: Churchill. 1850. 8vo. pp. 139.

THE subject of organic chemistry, the legitimate basis of the practice of rational medicine, has of late years largely occupied the attention of many celebrated continental chemists, as well as that of some of the most talented amongst our own countrymen. Being a very difficult and laborious study, and one which, though fraught with many prospective advantages to the profession, offers to those engaged in it comparatively little present reward, as a compensation for the great expenditure of time and trouble necessary for its successful pursuit, every advance in this direction, made by competent observers, should

be favourably received, as tending to render this branch of science more productive of benefit to the practical physician.

Amongst those who have effected most for the advancement of animal chemistry, the name of Liebig indubitably stands pre-eminent, and to his accurate observations and brilliant discoveries must justly be ascribed the rapid strides which have been made in the acquisition of correct knowledge respecting some of the most important and interesting functions of the animal economy. We cannot attempt to trace the progress of further improvements, or to appropriate the exact share of merit everywhere due; but so far as regards the subject which more immediately occupies our attention in the work now under consideration, we can safely say, that amongst British practitioners who have distinguished themselves by valuable contributions in this department of medicine, the name of the late Dr. Prout deservedly ranks foremost. He first directed attention to the intimate connexion existing between derangements of the stomach and alterations in the character of the urine; and in each succeeding edition of his valuable treatise, keeping pace with the advance of knowledge upon these subjects, and availing himself of the light shed upon them by the labours of others, he laid the foundation for a correct treatment of these affections by a proper location of the diseased action, teaching the profession to seek it in the digestive organs rather than in the kidneys exclusively, as had been heretofore uniformly done. It is chiefly to his cultivation of organic chemistry that we owe the clear views now possessed of the relation of the urinary secretion to the character of the food, and also the knowledge we have of the true functions of the kidneys. Every unhealthy condition of the urine is not now attributed to a diseased state of these organs, and their function is clearly recognised to be not that of apparently secreting urine, but of separating from the blood substances which had become useless, and which, if allowed to remain, would prove hurtful.

The names of Aldridge, Golding Bird, Rees, Gairdner, and some others, are familiar as contributors to our information upon the pathology of the urine, and following in the same line our author has occupied no unworthy position. Seeming to be fully aware of the wide extent of the range of animal chemistry, and the great difficulty of presenting in so limited a period as he had at command, viz., the time occupied in the delivery of twelve lectures, a general view of the entire subject, he confines his present effort to the consideration of the relations between certain stomach and renal affections, and more particularly to the elucidation of the effects upon the renal

secretion as well of the due and healthy performance of the function of digestion as of several derangements and arrests of different stages of this process. Even this apparently isolated patch presents a very wide field for research, and, however carefully it may appear to have been hitherto explored, is still able to repay amply further attentive culture.

The three first of the series of lectures before us are occupied chiefly by some interesting observations upon the chemical constituents of food generally; notices of the changes which alimentary matter undergoes in the different stages of digestion; the composition of gastric juice; the nature of organic and inorganic acids found in the stomach, and the sources whence they are derived; and the important actions of oxygen throughout the entire system. And whilst we cannot discover any decidedly new observations or additions to our knowledge upon these subjects, we must admit that the full amount of it is clearly, agreeably, and succinctly stated; and the perusal of these lectures will be of service to any who may not have kept themselves "au courant" in this branch of physiology. The remarks upon sanguification, and the changes which take place in the blood, the method laid down for conducting an analysis of that fluid, and more especially the description of the process for the detection of uric acid when its presence is suspected in gouty and rheumatic patients, are excellent.

Our author then proceeds with the more immediate object of his course of lectures, the development of the connexion existing between stomach and renal affections, and commences this subject by glancing at the formation of urinary calculi, their division, cause of formation, &c. The best method of analyzing, and so distinguishing the varieties of calculi from each other, is clearly set forth, and a very useful table for their ready examination is appended. Next follow the results of some highly interesting and original observations upon the quantity of urine usually secreted in health, its specific gravity and degree of acidity at various times, with notices of the causes influencing each, derived from numerous carefully conducted experiments.

If about fifty ounces of fluid are taken in twenty-four hours, the average quantity of urine in health during winter will be about forty-four ounces, and somewhat less in summer, and the specific gravity of such urine, the individual being on full diet and using moderate exercise, will be 1021. The secretion of urine appears to be most active immediately after breakfast; the quantity passed is diminished by excess of exercise, the specific gravity, however, being increased; and whilst the

nature of the food, whether animal or vegetable, seems to have no effect upon the quantity, it materially affects the specific gravity, which is increased by an animal as compared with a mixed diet. Dr. Jones does not think that much reliance can be placed upon the inferences to be deduced from those tables, which have been constructed with the view of enabling us to judge of the quantity of solid matter contained in urine by the amount of its specific gravity.

“It is said that by taking the specific gravity and referring to the table, the quantity of solid matter may be immediately determined. If the urine were simply a solution of one substance, as, for example, urea in distilled water, such tables could be made to give the truth; but when many different substances are dissolved in water, no tables can be trustworthy. A small quantity of one substance may increase the bulk of the urine more than a large quantity of another substance; or equal quantities of different substances may increase the bulk of equal quantities of water in which they are dissolved to a very different degree, so that the solid residue in each might be equal, while the specific gravities of the solutions might be different. Experiment proves this in the case of the urine. There is no short road to any accurate results. The acid urine must be carefully evaporated at a very low temperature in the vacuum of the air-pump, over sulphuric acid, until, on being weighed and re-weighed, it ceases to lose weight. If the urine be not acid the result will be worthless.”

He next dwells upon the most important variation in the urine, namely, its acidity. The urine in health is generally acid, but the quantity of acid is continually changing, and the variation is one of health, and not, as has usually been stated, one of disease. By means of a very delicately constructed instrument, with an accurately prepared alkaline solution, he was enabled to measure the degree of these changes, and he found that the acidity of the urine was constantly varying, the variations depending in a great measure upon the different stages of the digestive process and the nature of the food taken. The urine passed at the greatest length of time after food has been taken is generally the most acid, and that passed when digestion is going on is three or four or more times less acid. We know that the contents of the stomach are highly acid during the process of digestion; and it would appear from Dr. Jones' experiments, that at this time the acidity of the urine is at its minimum; whilst after that process has been completed, and the stomach is empty, the urine reaches its maximum degree of acidity. When animal food only was taken, the diminution of the acidity after food was more marked and more lasting

than when a mixed diet was taken. When vegetable food only was taken, the decrease in the acidity was not so great as when animal food was taken.

Dr. Jones ascertained by direct experiment the effects of the exhibition of various acid and alkaline medicines upon the acidity of the urine; dilute sulphuric acid in considerable quantity slightly increased the acidity, but tartaric acid seemed to produce a more decided effect. *Liquor potassæ* in large doses diminishes the acidity of the urine, but it by no means renders the urine constantly and permanently alkaline; its effect seems to pass rapidly away. Tartrate of potash produced a most decided and rapid effect on the acidity of the urine; 120 grains of pure dry tartrate of potash, dissolved in four ounces of distilled water, made the urine alkaline in thirty-five minutes. There is nothing certain yet known as to the nature of the acid which gives rise to the acidity of the urine; the most probable surmise is, that it is caused by the presence of some acid salt, most likely acid phosphate of soda, rather than by a free acid:

“The nature of the acid is not of great consequence, but the variations in the acidity of the urine in health give practical results of importance. For if you find that the urine passed at one hour of the day is highly acid, you may find that the water made at another hour of the same day, is nearly or quite alkaline; and if you are tempted to prescribe alkalies for the highly acid reaction of the urine made long after food, you may be led to prescribe acids for the alkaline reaction of the urine made soon after food. Thus, according as you may see your patient early or late in the day, he may be put on a course of caustic potash or nitro-muriatic acid. The reaction of test-paper on urine, made at any one hour of the day, should never determine the use of acid or alkaline medicines. The different deposits which take place in the urine are far better tests of the state of the urine and of the necessity for these remedies. If you are guided by the reaction of test-paper, the total quantity of urine made in twenty-four hours must be examined.”

Uric acid exists in the urine in the form of lithate or urate of ammonia, but so little reason is there for thinking that the acidity of the urine depends upon the presence of this salt, that Dr. Jones' experiments demonstrate an inverse relation. When the urine is very acid there is usually but little urate of ammonia present; when there is much urate of ammonia not unfrequently the urine is nearly alkaline. The variations of the uric acid in health are of considerable importance, and our author dwells particularly upon these, and points out the best method for their determination. He found that these variations were but little affected by different kinds of food, yet

that in a few hours after food was taken, the amount of uric acid was increased, and long after any food it was excessively diminished. Precipitation of urate of ammonia depends upon the existence of several causes not yet perfectly understood, but amongst those exercising the most direct influence are the states of acidity and alkalescence of the urine.

As regards the precipitation of uric acid crystals, he observes:

“This depends only upon the acidity of the urine, and is quite independent of the quantity of the urate of ammonia excreted, though the quantity of crystals that fall (falls) must depend on the quantity present; but the quality of the precipitate is determined solely by an over-acid state of urine, or, what comes to the same thing, a deficiency of alkali there. Whenever uric acid crystals are found in the urine, it may be taken as a proof that the urine is more acid than it ought to be. Uric acid crystals are, in fact, by far the most delicate and trustworthy test for an over-acid state of the urine. The urine is sometimes so acid, that even in the kidneys, in the ducts of the mammary processes, uric acid crystals may be found. Most commonly, however, twenty-four hours must pass, after the water has been made, before the uric acid crystallizes out from over-acid urine; not unfrequently forty-eight hours are required. The time to some extent varies, not only with the temperature but with the degree of acidity.”

The notices in the next lecture of what are denominated the “oxalate of lime diathesis,” where an excess of that substance is found in the urine, and of the “sulphuric diathesis,” where an excess of sulphates exists therein, are original, evidently the results of much careful observation and experiment, and well worthy of careful study. Most of the conclusions have already been published by the author.

The subject of alkalescence of the urine next occupies attention, and the causes which increase the tendency to this state in healthy urine, such as high temperature, the presence of mucus, &c., are pointed out, and then we have the following remarks:

“Whether the urine be ever secreted ammoniacal is not determined; it is a question very difficult to decide; but it is not a point of practical importance. We know that the change of the urea may take place in the bladder, and even in the pelvis of the kidney, and that this occurs most commonly in cases in which there is inflammation of the mucous membrane of the urinary organs. The mucus effused from an inflamed mucous membrane more readily effects the change of the urea into carbonate of ammonia than healthy mucus does; and in some diseases, as fracture of the spine, the

mucous membrane of the urinary organs is apt to become inflamed, and thence the ammoniacal urine is formed, which, however, is by no means always found in spinal cases. There can be no inflammation of the mucous membrane without the production of pus, and sometimes the amount produced is very considerable. As long as the urine is acid, the pus-globules remain distinct, and do not adhere to one another; but when the urine becomes ammoniacal, the carbonate of ammonia slightly acts on the pus-globules, and makes them adhere together, so that a ropy gelatinous mass is formed, which includes epithelium, crystals of ammoniaco-magnesian phosphate, and granules of phosphate of lime. All these together constitute the ropy mucus seen in cases of diseased bladder. As long as the urine in contact with the globules is acid, this ropiness is absent; but if carbonate of ammonia, or any other alkali, caustic potash, for example, is added to the purulent matter taken from acid urine, the ropiness immediately appears. By agitation, air-bubbles are seen to be prevented from rising to the surface, and the liquid, when poured from one vessel to another, tails, and may be drawn into strings many inches long. As alkalies, by acting on pus, form this so-called ropy mucus, so within the bladder, if carbonate of ammonia is formed from urea before it is excreted, and if pus at the same time be present, ropy urine will be passed. The ropiness always increases after the urine has been standing for some hours."

The alkalescence of the urine, however, does not always depend upon the presence of carbonate of ammonia; and that alkaline state which occurs after food is taken is found to be occasioned by fixed alkalies, viz., carbonates of potash or soda, or by phosphate of lime. It is then shown how the occurrence of precipitates from the presence of phosphates of lime and magnesia are affected by the acidity or alkalescence of the urine, and the presence or absence of ammonia.

Lecture ix. is a very valuable one, containing much interesting matter, and many highly important facts, which may be of much use to the practical physician. The different causes which give rise to and increase the alkalescence of the urine are pointed out, and the distinctions to be drawn between urine which is alkaline from the presence of ammonia, and that which is so from fixed alkalies, carbonate or phosphate of soda, and phosphate of lime, are dwelt upon, and the methods of distinguishing them given. The former state depends upon local disease, and is the result of metataxis, or re-arrangement of the elements of urea. The latter arises in consequence of irritability of the stomach and general disorder, and in its treatment our attention must be directed to this organ rather than to the kidneys, the state of the urine being used as an index of that of the stomach. Both the state of alkalescence from the pre-

sence of ammonia, and that from a fixed alkali, must be distinguished from the true phosphoric diathesis in which an excess of alkaline and earthy phosphates is secreted.

The subject of albuminous urine, one possessing such very great interest for the physician, is, without occupying very much space, ably handled. The ordinary tests employed for the detection of albumen, viz., heat and nitric acid, are those relied upon by our author; but he insists upon the necessity of not depending upon either alone, for nitric acid will precipitate other matters than albumen (as urate of ammonia or urea) from the urine; and when the stomach is weak and irritable, after indigestible food, and during convalescence, the earthy phosphates are liable to be precipitated from urine which is alkaline. Hence the fallacy of the nitric acid test alone is, that it may give a precipitate when albumen is not present. In employing nitric acid and heat some precautions and a nicety of manipulation are necessary to insure success and guard against fallacy. Dr. Jones says:

“I, for quickness, generally try nitric acid first. If no precipitate falls, or forms on standing for a few seconds, I decide against the presence of albumen. If there be a precipitate, I boil the same acidulated specimen of urine. If the precipitate be permanent on boiling, I consider the presence of albumen highly probable. Before I decide, I clean the tube and boil the urine first, and then add a drop or two of nitric acid. The object of cleaning the tube is to free it perfectly from acid, for a small quantity of acid hinders the coagulation of albumen by heat. I have many times known an unclean test-tube, containing merely a trace of strong acid, lead to the assertion, that urine contained no albumen, when a very considerable quantity really was present.”

The inferences to be drawn from the presence of albumen in the urine are various, and must depend in a great degree upon the nature of other substances associated with it, to wit, blood-globules, pus-globules, and fibrine. For the discovery of these, and the establishing of the differential diagnosis of calculus, Bright's disease, sequelæ of scarlatina, and inflammation of the mucous membrane, the assistance of the microscope is absolutely necessary. Dr. Jones found the urine in one case to furnish distinct evidences of albumen, but only in the morning; after very close observation he discovered that these were owing to the presence of spermatozoa.

In the lecture upon diabetes we do not find anything very new or striking; that the disease depends upon the arrest or alteration of certain chemical actions is manifest, but the nature of these is not exactly known. The concluding lecture

contains some judicious remarks upon the relation of the urine to the food and the system generally, and this secretion is set forth, as it truly is, as the natural outlet for a very considerable portion of the waste of the entire body. The oxidizing process which is unceasingly going on in the various parts of the frame is then dwelt upon, and the author concludes with some useful hints and directions for the proper examination of the urine. These latter are most valuable.

In concluding our notice of this little work we must say that Dr. Jones has fulfilled what he undertook to do with very great ability, and we shall be glad to meet him again, should he be inclined either to resume this subject or enter upon some other branch of organic chemistry.

A Theoretical and Practical Treatise on Human Parturition.

By H. MILLER, M. D., Professor of Obstetrics and the Diseases of Women and Children in the Medical Department of the University of Louisville. Louisville: Cowling and Davies. London: Delf. 1850. 8vo. pp. 463.

On the Theory and Practice of Midwifery. By FLEETWOOD CHURCHILL, M. D., &c. Illustrated by upwards of 100 highly finished wood engravings. Second edition, corrected and improved. London: Renshaw. Dublin: Fannin and Co. 1850. post 8vo. pp. 496.

THERE must be something in the practice of midwifery that tends to promote literary fecundity. Of this we possess abundant proof at the present day, in the constant issue of works on midwifery and its related subjects from the press in England, on the Continent, and in America; indeed, so manifold are they as almost to outnumber the publications on all the other branches of the healing art. The two treatises now before us form a part of the obstetric productions of this year. They possess few characters in common, except that of treating on the same subject; nevertheless, though so widely different, the consideration of each need not detain us very long.

The title of Dr. Miller's book naturally led us to expect that all the leading phases and accidents of human parturition would, as a matter of course, be brought under review, nor was there anything in the preface to discountenance this idea. We were much disappointed, therefore, to find his observations on difficult labour very limited and unsatisfactory; and still more surprised were we at perceiving that some of the most

serious and important complications of labour were wholly unnoticed; in fact, that nearly the entire of the fourth class of Denman, including convulsions, plurality of children, hemorrhage, and prolapse of the funis, together with rupture of the uterus, are all passed over in complete silence, as though such occurrences never attended upon human parturition. How to explain this wholesale omission we are utterly at a loss. The after-treatment of child-bed, and the diseases incident to the puerperal state, are also omitted.

As a sort of apology for adding another to the many treatises on midwifery already existing, we are told:

“This multitude cries aloud for another. While they have disseminated knowledge and enlightened the highways and by-ways of practice, and thus been instrumental in achieving much good, they have unsettled the minds of practitioners in regard to points of deepest interest, and made a wreck of obstetrical nomenclature, as far as the presentations and positions of the fœtus are concerned.”

To check these abuses and errors that have crept in, he recommends for general adoption the classification of M. Duges, with a nomenclature of his own, thereby augmenting the evil in his attempt to remedy it.

In the preceptive and practical part of the work, he candidly acknowledges that his principles are essentially the same as those of Hamilton and Burns, the “northern lights,” as he facetiously calls them; and he proves himself a zealous disciple of these teachers, by carrying out to the utmost that most irrational and pernicious maxim of their’s, “that the termination of the first stage of labour should be secured within twelve or fourteen hours from its actual commencement.” The effect of this doctrine upon his practice is probably as marked and extensive as even the original advocates of it could have desired. It pervades the whole book, and in every possible way influences his rules of treatment. No wonder then we find him exclaiming, in reply to some remonstrances of Drs. Churchill and Ramsbotham, that “the os uteri is made of sterner stuff than it has credit for, else it would be unfit for its post.” There is certainly no denying but that of late years “the stuff” it is made of has been severely tried, and in a variety of ways! Before sending the second edition of his work to press, we would strongly recommend Dr. Miller to read the correspondence that passed between Dr. Collins and Dr. Hamilton(a) relating to this matter, in which he will see that his favourite doctrine will not stand the test of experience, however spe-

(a) See former Series of this Journal, vols. xiii. xiv. and xv.

cious and plausible it may appear in theory. Dr. Miller fully admits that in Dr. Churchill's tables of tedious labour (p. 197 of second edition), the opponents of the Hamiltonian school have powerful support, as these statistics show that delay in the first stage is generally unproductive of danger to the patient, and, with few exceptions, does not even predispose to delay in the second stage. Seeing how destructive these tables are to the theory for which he is so uncompromising an advocate, Dr. Miller endeavours to nullify their effect by putting a forced interpretation upon Dr. Churchill's definition of the first stage of labour, and leading us to suppose that it includes most of the second stage also. But surely this is not an ingenuous mode of dealing with an author. By such an expedient a temporary advantage may be gained, but the cause of truth will not be advanced. All throughout his book Dr. Churchill speaks of the first stage in precisely the same sense as Denman does, and though his definition might perhaps be strained to embrace more than that writer's, still this would be doing violence to the author's plain meaning elsewhere. The wording of the passage in question is to this effect: the first stage extends "from the commencement of labour to the passage of the head through the os uteri," (p. 144, first edition.)

When reviewing Dr. Meigs' treatise on "Obstetrics, &c.," in a late Number of the *Journal*(a), we felt it our duty to express strong disapprobation at his recommending the use of the forceps on all occasions where the least delay occurred in the delivery of breech or footling cases. In censuring this rash precept we are happy to find ourselves seconded by a countryman of the Philadelphian professor. On this point Professor Miller remarks:

"I cannot think it judicious or proper to adopt the counsel of the last-named gentleman, to send for our forceps whenever we discover that the nates are presenting, that we may be prepared to extract the head instrumentally as promptly as he recommends; for although it may not be difficult to use the forceps in such a case, instruments ought not to be resorted to under any circumstances where the hand may supersede them, as I believe it always may in the case under consideration, provided it be properly employed, that is, provided the entire hand, and not merely two fingers, as commonly directed, be introduced over the chin."

The first few chapters of Dr. Miller's book are upon the anatomy and physiology of the gravid uterus; and on some

(a) No. xvi., November, 1849.

points connected with this subject his remarks are full and interesting, and give evidence of a reflecting and well-informed mind. An inquiry into the determinative or exciting cause of labour next occupies some pages. He is not by any means satisfied with the opinion of Avicenna, that "at the proper time labour took place by the grace of God;" and adds that there is "more piety than philosophy in this hackneyed apothegm, and more indolence than learning in quoting it!" With Dr. John Power, he attributes it to orificial irritation of the cervix uteri, and adduces many facts and ingenious arguments to bear out this theory. He does not seem aware of Dr. Tyler Smith's investigations towards the solution of this obscure question, nor does he make any allusion to the doctrine of ovarian irritation, to the elucidation of which this physician has applied himself so closely and successfully. In the chapter entitled "Obstetric Aptitudes of the Fœtus," our author enters at some length into the consideration of the position of the fœtus in utero at the different periods of gestation; a subject to which a good deal of attention has of late been directed by Dubois, Cazeaux, M'Clintock and Hardy, and Dr. Simpson. He quotes largely from the admirable memoir of M. Paul Dubois, whose deductions on this matter are most original, and founded on a very extensive series of careful observations. The only point wherein Dubois would seem to have erred was in regarding as voluntary or instinctive, movements that should more properly, perhaps, be termed reflex, or excito-motory; but this is little more than a verbal distinction, we think, as the idea present to the author's mind might almost have been represented by either of these terms.

We are much surprised that Dr. Churchill, to whose book we now turn, should, in his remarks on the position of the fœtus in utero, have taken no notice whatever of M. Dubois' memoir. Indeed on this and one or two other subjects of a kindred nature, his work is not as much *au niveau* as might have been expected from an author of such extensive reading and unwearied industry. But the volume can amply afford these small detractions. It is already well known to the profession, and that it is held in high estimation is sufficiently testified by the facts of a second edition (the first having consisted of 2000 copies) being called for at home, and of a *third* American edition being in process of sale. To bestow praise on a book that has received such marked approbation would be superfluous. We need only say, therefore, that if the first edition was thought worthy of a favourable reception by the medical public, we can confidently affirm that this will be found

much more so. The lecturer, the practitioner, and the student, may all have recourse to its pages, and derive from their perusal much interest and instruction in everything relating to theoretical and practical midwifery.

Since the former edition of Dr. Churchill's work appeared three subjects of grave practical importance have come under the attention of accoucheurs in these countries, and have occupied a conspicuous place in the obstetrical literature of the last few years. If they have not all originated in the same school, they at least have all had the able advocacy and strenuous influential support of Professor Simpson, to procure for them recognition amongst the established rules of our art. On each of these points Dr. Churchill bestows a fair share of consideration, unmixed with prejudice or personality.

The use of chloroform in midwifery, its advantages, disadvantages, and effects, are fully and impartially set forth. The propriety of administering anæsthetics in natural labour is the question which has proved most fruitful of dispute and contention. Our own rule has been not to give it in this class of cases, unless at the special request of the patient; and not even then if the least contra-indication be present. Dr. Churchill's recommendation substantially agrees with this.

“As to its exhibition in natural labour, as I do not believe that in the large majority of cases convalescence is at all impeded by the suffering, I cannot see the *necessity*, or even the propriety, of urging the employment of anæsthesia in every case; and I do feel that even greater caution ought to be used than in operative midwifery. We may be justified in running some risk where an important point is to be gained, such as perfect quietness during an operation, which we should not be justified in incurring merely to relieve pain. Thus in hysterical or nervous patients, in those labouring under nervous affections, or organic disease of the lungs or heart, &c., I do not think we ought to employ it In my own practice I have never urged a patient to use chloroform in natural labour; and, on the other hand, I have not felt justified in refusing a moderate dose of it when the patient urgently desired it, and none of the conditions were present which seem to me to counter-indicate it.”

Although these two passages do not immediately follow each other in the original, yet in justice to the author it was necessary to quote them both; as a hasty or prejudiced reader, lighting on the former paragraph, might, though most unjustly, charge Dr. Churchill with giving or withholding chloroform as the patient herself prescribed it or not. This valuable agent, on its first introduction, shared the fate of all new remedies; indeed there was no reason why it alone should enjoy exemption. By some

it was extravagantly and indiscreetly extolled; others attributed to it hurtful properties which it did not possess; whilst a third class ignorantly denounced its employment in midwifery as being wicked and impious. But now, according as the heat of dispute and controversy is passing off, men's minds are regaining their wonted equilibrium, and chloroform is beginning to find its proper level, so that ere long we may expect to see it holding its true position in the list of obstetric agents.

The next part of Dr. Churchill's book which calls for our notice is that containing his remarks upon the substitution of turning, in certain cases of pelvic deformity, for craniotomy. The practice here commented upon is no new proposal. Sir Fielding Ould, the immediate successor of Bartholomew Mosse in the mastership of the Dublin Lying-in Hospital, thus described it in the year 1741:—"Here I must beg the reader's leave to mention one thing, which I own I never yet attempted to put in practice; however, as it carries a very promising appearance of success, it shall be submitted to his censure. Suppose a woman in labour who by the experience of a former delivery was found by the operator to have the passage through the bones of the pelvis so narrow as to refuse an exit to the child (though not of an extraordinary size) by means of the common efforts of nature; and that on this account it died, or was destroyed by instruments, for the preservation of the mother's life; in this case there is a strong probability of saving the child by introducing the hand when the membranes break, and bringing it forth by the feet, with a strict observance of all the precautions already taken notice of for that purpose." As Sir F. Ould's treatise on midwifery is rather a scarce book, we make no apology for this quotation.

Denman, whose acuteness and sagacity let nothing escape him, has remarked "that cases may occur in which, by turning the child, the chance of saving its life is greater than can be gained by the use of any instrument;" and of this he gives a very striking example which happened to himself. Still with this instance fresh in his mind he writes: "But the success of such attempts to preserve the life of a child is very precarious, and the operation of turning a child, under the circumstances before stated, is rather to be considered among those things of which an experienced man may sometimes avail himself in critical situations, than as submitting to the ordinary rules of practice."

Velpau clearly pointed out certain forms of pelvic distortion in which the operation of turning is capable, he thinks, of bringing away a living child, where otherwise delivery

would have been impossible without mutilation of the mother or foetus. As this has been denied we think it well to quote his own words:—"Lorsqu'il n'y a qu'un des *diamètres obliques* de vicié, il en résulte ordinairement une disposition fort importante à noter. Si c'est à droite, par exemple, comme l'a vu Smellie, et comme Stein en donne plusieurs figures, qu'existe le resserrement, le côté gauche pourra présenter un excès d'amplitude. Dans ce cas, si la tête vient l'occiput à droite, l'accouchement exigera presque nécessairement des secours, tandis que, s'il s'était présenté à gauche, la nature aurait pu se suffire à elle-même. Cette remarque indique assez que, pour rendre l'accouchement facile chez une femme ainsi conformée, *il suffit d'opérer la version, et d'amener le fœtus en première ou seconde position des pieds*; de telle sorte que l'occiput puisse correspondre au côté le plus large du détroit." In illustration of these remarks he relates the case of a woman whose accouchement he brought to a happy issue by this proceeding, although the history of her former labour fully justified the belief that contraction of the hard passages existed.

Cazeaux has improved on this hint of Velpeau's, and described more in detail the cases suitable for this method of treatment. Jacquemier, a later writer, also notices this proposal; and moreover states that Madame Lachapelle and Oslander both consider version a mode of delivery preferable to any other in certain malformations of the pelvis. None of these writers seem to hold the opinion of the head being more compressible under tractile than expulsive efforts, as they give it no place in their reasoning; but that they all fully recognise the greater narrowness of the bi-temporal as compared with the bi-parietal diameter of the head is manifest by their directions to bring it to correspond with the contracted portion of the brim.

Lastly, we find Professor Simpson warmly adopting the practice, and exhibiting great labour and earnestness in its defence. Not only does he support it by much clever reasoning, but calls in to his aid the never-failing succour of statistics. Now, though we fully acknowledge the vast importance of numerical calculation in the discovery of general laws, and recognise it as the ultimate appeal for the solution of many great practical questions, in medicine as well as in politics; still it cannot be denied that its results are very liable to be influenced by the manner and spirit in which they are sought. Furthermore, as a general rule, we *strongly object to receiving any kind or amount of collateral statistical evidence as adequate proof of the efficacy of an untried practice*. This is a usurpation

which should be denounced as incompatible with the very nature of medicine; and if the principle were once established, it would open a door for the admission of many novel practical doctrines of a most mischievous kind. But, to return, let Dr. Churchill speak for himself on the practice under consideration:

“Now let us examine into the practical application of his proposal. The bi-mastoid diameter, in the six cases of measurement he (Dr. Simpson) gives, varied from $2\frac{5}{8}$ inches to $3\frac{1}{8}$ inches, and a living child can pass through a pelvis of $3\frac{1}{4}$ inches antero-posterior diameter, with or without the forceps. With a pelvis of this size the operation is then unnecessary, and if the antero-posterior diameter of the pelvis be less than $2\frac{5}{8}$ inches, the operation would be impracticable. Then these are the limits of the operation; for us to attempt to drag a child through a smaller space would be unjustifiable. For the success of the operation, then, we must be able to ascertain that the pelvis is within these limits; and perhaps in some few cases, with whose former labours we are accurately acquainted, we may do this, but in an immense majority of cases it will be, I think, impossible; and it happens, as Dr. Collins has shown, that the greater number of cases of difficult labour he met with were first cases, in which, of course, no such precise judgment could be attained.

“Again, the life of the child is not secured, and its chance but little increased, even if our estimate of the pelvic diameters be accurate, for if, in turning with an ordinary sized pelvis, one-third of the children are lost, the mortality will be surely more than doubled if its diameter be reduced more than one-fourth.

“Moreover, if we should miscalculate the size of the pelvis, or if the head should be a trifle larger than usual, so far from the safety of the mother being increased, it would be very seriously diminished; for you must then craniotomize the child after incurring the hazard of turning, and in a most unfavourable position.

“Lastly, even if we succeed in selecting a suitable case, and in extracting the child, it has yet to be proved that the mother would not incur considerable danger from contusion or laceration in forcibly dragging the child through a narrow pelvis; for I must remind my readers that we have no statistics of the proposed operation to compare with those of the old method; the few cases adduced by Dr. Simpson being of no value for this purpose.

“I must therefore object to the general adoption of Dr. Simpson's plan, for the reasons above stated; the difficulty of ascertaining the exact diameters of the pelvis, the very little benefit to the child, the great risk to the mother of doubling the operation, and the uncertainty of benefit even in suitable cases.”

Our own views very much coincide with those just rehearsed. We can readily conceive a case where this operation

would give the foetus a chance of life somewhat better than what the perforator holds out. We admit this as an abstract truth, and would willingly have recourse to the operation, provided we could be fully assured that the case was exactly a suitable one. But then comes the question, how is this to be ascertained beforehand? or what means do we possess of measuring the relative capacity of the pelvis and foetal head? Herein consists the practical objection to the measure in any given case; for its limits are so restricted that the miscalculation of a few lines will most effectually frustrate the primary object for which it is intended. Nevertheless the proposal is worthy of some attention, and to make it deserving of general adoption only wants the support of a respectable number of cases in which it was successfully tried.

The third *questio vexata* that we come to is the treatment of unavoidable hemorrhage by artificial separation and removal of the placenta, a practice suggested in the year 1799 by Dr. Chapman, but recently brought into prominent notice by the recommendation of Drs. Radford and Simpson. This our author discusses with philosophic candour and liberality; and although himself rather opposed to its adoption, yet he renders full justice to the arguments of its defenders. Except in the two following cases, he would not consent to substitute the new method of treatment for the old, and even in these cases he wisely recommends the utmost caution:

“In cases of extreme exhaustion, where the mother is unable to bear the shock of turning or any additional loss of blood, if the os uteri be dilated or dilatable and the circumference of the placenta within reach; as the hemorrhage is said to cease after the removal of the placenta, the operation may be admissible for the purpose of gaining time, even with the chance of artificial delivery afterwards.

“In cases where the flooding is considerable, the presentation natural, and the pains strong (the cases in which the placenta is sometimes expelled before the child), there seems to be no objection to arrest the hemorrhage by the removal of the placenta, leaving the conclusion of labour to the natural powers, either alone or stimulated by galvanism, as Dr. Radford has proposed. To these two classes the results of Dr. Simpson’s statistics almost exclusively apply.”

The sole basis on which this practice rests, and from which alone its claims to supersede the old practice are derived, is the assumption that the hemorrhage ceases when the placenta is entirely detached. This we are assured must take place as a matter of course, if there be any truth in the Hunterian doctrine of the utero-placental circulation. Strange enough, how-

ever, the Hunters themselves did not seem to consider this a consequence of their explanation, much less lay it down as a condition for its acceptance. Had they done so we think it would have effectually arrested the spread of their theory, as the every-day occurrence of some flooding after the total separation of the after-birth would have given the most direct and palpable contradiction to its truth. Consistently with the Hunterian doctrine we believe that blood escapes from the detached portion of a partially adherent placenta; and though, *a priori*, we might suppose the hemorrhage would be suppressed by its complete detachment, yet this specious inference must give place to the fact, which sad experience has too often forced upon our conviction and our memory, that flooding to a profuse, or even fatal extent, may take place from the uterine surface after the complete disjunction and removal of the after-birth. Here a fact and a theory come into direct collision. Can there be a moment's hesitation which to receive and which to reject?

It has often struck us as a *prima facie* argument in favour of this practice, that it must have an extraordinary degree of success to recommend it, else, being almost necessarily destructive to the child, it would not have been so warmly advocated by those who, on other occasions, vehemently denounce craniotomy, out of a tender regard for the claims of foetal life. Writing in 1849, Dr. Tyler Smith very pointedly observes:—"there is one singular circumstance which cannot fail to strike you, when pointed out: this is, that the self-same accoucheurs who, in the matter of placenta prævia, are carrying the principles of our national practice, as I believe, to an injurious extent, are those who attempt to violate them, on the other hand, by adopting in other cases the foreign and antagonistic principles. The same practitioner who one day destroys the child by the detachment of the placenta, will, the next endanger the life of the mother by the Cæsarean section, vacillating between the extremes of either practice"(a).

Before concluding we would wish to correct two or three mistakes which a reviewer in the last July number of the Edinburgh Monthly Journal has fallen into. We should not, perhaps, have thought it necessary to notice them, but that Dr. Simpson's name appears as one of the editors of that periodical: wherefore, it is incumbent on us that these misstatements should not remain uncontradicted. After noticing the great frequency of the third cranial position of Nægelé, the reviewer continues:—

(a) Parturition, and the Principles and Practice of Obstetrics, p. 11.

“ There is now no accoucheur, we believe, of any note, on the continent of Europe, who does not subscribe to the truth of Naegelé's observations on this subject ; and since 1828, when Dr. Rigby first translated Naegelé's essay, it has gradually gained more and more converts in England and Scotland. But Dr. Collins, and others in Dublin, long found results different from what were found elsewhere. Dr. Collins enters the occipito-posterior position of the head as occurring in only about 1 in every 1300 labours in the Dublin Hospital. In other hospitals they occur as often as one in every three or four labours.” Who are alluded to under the generic title of “ others ” we are at a loss to imagine ; but as regards Dr. Collins, the statement is, in point of fact, untrue. The only passage in his work, on which the above assertion could be founded, is that at p. 33 : “ In twelve cases the head presented with the face to the pubis.” That he is here, however, only speaking of the position of the head at birth,—referring in fact to Denman's second variety of natural labour,—is obvious to any one who takes the most cursory glance at the context. Indeed the rest of the chapter so plainly shows, by evidence both of a positive and negative kind, what his real meaning is, that we are amazed at the reviewer's committing so serious an oversight.

Further on the reviewer makes the following remarks :—“ In the article in the ‘ Dublin Journal,’ from which we have already quoted a paragraph, Dr. Montgomery tells us that the Dublin accoucheurs had been told, ‘ with somewhat less than courtesy,’ that ‘ facts require ten years to arrive in Dublin.’ We do not remember to have ever seen or read such a remark in print ; but whoever made it proceeded, we opine, upon an undue want of knowledge of the length of time that some facts at least require for transmission in the direction stated. Here, for example, we have a simple but most important fact—the frequent position of the face forwards—a fact of which any tyro may obtain complete evidence, if he only uses his sense of touch with a little care, and without preconceptions or prejudices,—and this fact is not acknowledged in the principal Dublin text-book on midwifery, till upwards of thirty years after it is announced in Germany, and upwards of twenty years after it is announced in England. In writing this statement, we cannot but entertain a confident hope, that many other doctrines and practices, opposed and objected to by the Dublin School, are yet destined to share the same fate.” With reference to the remark of Dr. Montgomery's, which the writer did “ not remember ever to have seen or read in print,” it must be confessed that neither did we, but we saw it in manuscript ; and

if the reviewer has any fancy to know who the writer of it was, we shall be happy to inform him; it is more than probable that they are acquainted.

The reviewer's attempt to justify his charge against the Dublin School of Midwifery, is, to say the least of it, a very lame one, and betrays a want of accuracy quite unpardonable in one sitting in judgment on the works of others. Supposing for a moment the allegation to be true, it would not constitute a very serious imputation, seeing that such authorities as Boivin and Lachapelle are at variance with Naegelé on the point in question. Let the facts, however, speak for themselves. "The principal Dublin text-book on midwifery" did not appear till 1842, so that prior to this date it could not have announced anything *pro* or *con*; this must be plain even to the reviewer. The alleged erroneous statement in this first edition of Churchill's midwifery is to this effect: after adverting to the discrepancies among authors as to the relative frequency of the second and third cranial positions, the author candidly observes: "The researches of my friends Dr. Breen, Professor Simpson, &c., have led them to coincide with Naegelé, and if I have not been quite so fortunate, I doubt not that it is because my experience has been less." Such is the evidence to sustain the charge, and we leave it to the reader's honest judgment to decide whether it does so or not. Now, on the other hand, be it observed that in Dr. Maunsell's Dublin Practice of Midwifery, published in 1834, the mechanism of parturition was laid down in strict conformity with the opinions of Naegelé, and the author expressly states why he did so, as "being convinced of their general correctness." Here then we see the principal and only Dublin text-book on midwifery in the year 1834, i. e. *five* years after the appearance of Rigby's translation of Naegelé, and *sixteen* (not thirty) years after the announcement of Naegelé's doctrines in Germany, adopting in every particular the views of this author respecting the mechanism of parturition. We have only one word more to say to the reviewer, and we have done, viz., when giving a quotation from an author not to interpolate words, especially such as alter his meaning, even though they may be included within brackets.

We trust the reviewer of the Edinburgh Monthly Journal will take these hints, as they are intended, in good part.

Recherches Anatomiques, Cliniques, et Expérimentales, sur la Nature et les Causes de l'Emphyseme Pulmonaire (Asthme continue des Anciens.) Par le DOCTEUR ROSSIGNOL. Première Partie. Anatomie Pathologique. Avec Planches dessinées par A. Larivoire. Brussels: Gregoir. 1849. 8vo. pp. 122.

THE object of Dr. Rossignol's essay is, as he expresses in his introduction, "to determine those lesions of the lungs which constitute the disease known by the name of pulmonary or vesicular emphysema, to examine their causes, and determine their mode of action."

To effect this, the author, being unwilling to trust solely to the labours of others, especially as so many conflicting opinions exist upon the subject of emphysema, even among the most distinguished pathologists, undertook a series of experiments, which were seemingly conducted with considerable care. The detailed results of these form the bulk of the present publication, which he intends to follow with a second, wherein he will reduce to practice the facts derived from his previous investigations. The present part is accompanied by some very carefully executed lithographs representing emphysema in its various stages, taken both from human lungs in which it had arisen spontaneously, and also from the lungs of dogs in whom it had been artificially excited by the injection of ether into the veins.

After giving a rapid sketch of the general and structural anatomy of the human lungs, into the details of which he enters with a minuteness which rivals that of the Germans, he proceeds to consider the disease itself.

Dr. Rossignol, discarding the term vesicular, admits two kinds of emphysema, *intralobular* and *extralobular*, devoting his present inquiry exclusively to the first variety, and starting with the axiom that the former never merges into the latter, which he considers as being always occasioned by traumatic influences.

Having established the characters and measurements of a great number of healthy human lungs, taken from subjects of different ages and sexes, and mostly from criminals executed in the full enjoyment of health, the results of which are presented in a tabular form, he proceeds to examine the external appearances of emphysemateous lungs, and the relation they bear to the parietes of the thorax. In this he agrees with other writers, nor does he establish any new fact.

The great point which he seems anxious to lay down, and which he considers as a discovery of his own, is the mode of formation of those larger cells which characterize emphysematous lungs, and which have been considered by many as resulting from the rupture of the intercellular partitions, and the consequent coalescence of two or more pulmonary cellules into one. In support of his views he details a series of experiments made upon different living animals, in which he endeavoured to produce emphysema by the artificial insufflation of their lungs, as also a number of experiments made on dead bodies, with subjects of all ages; and the conclusion he comes to is, that in animals there is a great difference in the resisting power of the pulmonary tissue; the lungs of rabbits having been rendered emphysemateous, in his experiments, by the gentlest insufflation, while those of dogs resisted the strongest that could be made; those of other animals ranging in an intermediate position: whilst human lungs, even those of new-born infants, never became emphysematous, except when an amount of force was used, far exceeding the limits of an ordinary inspiration. From this he deduces the fact that emphysema from rupture of the intercellular septa is, if not impossible, at least extremely rare, and only to be met in acute cases, the result either of injury or of over-violent exertion.

Our author then passes rapidly in review the opinions of the most distinguished pathologists who have written on emphysema, and proceeds to a description of his mode of investigating the subject, by which method he conceives that he has arrived at the conclusion, that what had been ever before considered as the effect of laceration is caused by *interstitial absorption* or *atrophy*. He thus expresses himself at page 79 of his work:

“Ce travail morbide (l'atrophie) produit d'abord l'amincissement des parois des cavités aeriennes dilatés et des bronches retrecies, puis la perforation des premières en un nombre plus ou moins considerable de points, enfin la resorption complete des unes et des autres.”

This, then, is the progressive march of emphysema, according to our author. First, there is dilatation of the air-cells; second, constriction of the infundibula; and third, atrophy and consequent fusion of two or more cells into one. He finally passes to the consideration of the effect which confirmed emphysema has upon the circulation, giving a detailed account of some experiments instituted for the purpose of investigating the subject. On this part of the question, however, we find nothing novel brought forward.

Altogether the short essay of Dr. Rossignol is sufficiently interesting, and we shall look forward with pleasure for the appearance of the second part, in which he expects to develop some practical advantages in the treatment of this disease, as deduced from his prior investigations, which certainly reflect much credit on him, both for accuracy and minuteness of detail.

Observations and Essays on the Statistics of Insanity, and on Establishments for the Insane; to which are added the Statistics of the Retreat, near York. By JOHN THURNAM, Licentiate of the Royal College of Physicians of London, and Medical Superintendent of the Wilts County Asylum. London: C. Gilpin. 8vo. pp. 308.

Report on the District, Local, and Private Lunatic Asylums in Ireland. 1848. Presented to both Houses of Parliament by command of Her Majesty. 1849.

Seventh Report of the Inspectors to Earl Clarendon, Lord Lieutenant of Ireland, and the Right Hon. Maziere Brady, Lord High Chancellor of Ireland, on the Private Lunatic Asylums in Ireland. Dublin: Alexander Thom. 1850.

Outlines of Lectures on the Nature, Causes, and Treatment of Insanity. By SIR ALEXANDER MORISON, M. D., Physician to the Bethlehem Hospital and the Surrey County Lunatic Asylum. Edited by his son, THOMAS C. MORISON, late Resident Medical Officer of the Suffolk Lunatic Asylum. 4th Edition, with Plates. London: Longman and Co. 1848. 8vo. pp. 472.

Contributions to Mental Pathology, with the past and present State of the Insane in Ceylon. By JAMES G. DAVEY, formerly one of the Resident Surgeons of the Hanwell Asylum. London: Churchill. 1850. 12mo. pp. 276.

Short Notes in reply to the above. By J. M. GRANT, M. D., Assistant Surgeon to Her Majesty's Forces. Colombo. 1850. 12mo. pp. 111.

Familiar Views on Lunacy. By the late Medical Superintendent of an Asylum for the Insane. London: J. W. Parker. 1850. Post 8vo. pp. 195.

The Journal of Psychological Medicine and Mental Pathology. Edited by FORBES WINSLOW, M. D. Nos. 10 and 11, for April and July, 1850. London: John Churchill.

Report of Proceedings of the Association of Medical Officers of Hospitals for the Insane in Great Britain and Ireland.

Annual Reports of the District Asylums of Belfast, Maryborough, Clonmel, and Carlow, to March, 1850.

Royal Edinburgh Asylum Annual Report. December, 1849.

Thirtieth Annual Report, Dundee Royal Asylum. June, 1850.

Perth Royal Asylum, Twenty-third Annual Report. June, 1850.

Crichton Asylum for the Insane, Tenth Annual Report. Dumfries. November, 1849.

Suffolk County Lunatic Asylum, Annual Report. 1849.

General Report of the Royal Hospitals of Bridewell and Bethlehem. December, 1849.

Annual Report of the Eastern Asylum, Virginia, U. S. A. 1850.

Papers and Prize Essays on Insanity; read before the Society for the Improvement of the Condition of the Insane. London: published by the Society. 1850. 8vo. pp. 200.

THE subject of insanity is so surrounded by difficulties, and the disease so afflictive in its consequences, that more and more should it stimulate those who are still blessed with the *mens sana in corpore sano*, and who are otherwise favourably circumstanced, to aid and assist in dissipating the one and alleviating the other.

It is with this view that we again venture to return to a theme at once intricate and painfully interesting, and, endeavouring to fulfil the duty which devolves upon us as medical journalists, to add our mite to the treasury of psychological information, by placing before our readers such important facts as we can glean from the most authentic sources in this department of medical science,—one which a reference to our pages will prove we have hitherto not been unmindful of(a).

The list of publications of various kinds, prefixed to this article, will at once show that the labourers in the field of mental affections are many and able; and yet it is but a selection from a host of others on the same subject, lying before us, of comparatively recent appearance, but which to have included in our present notice would have been inconvenient and embarrassing. We only hold those over for another occasion, when we shall endeavour to make all due amends for their being now left unnoticed.

(a) See vol. i. N. S., 452; vol. ii. p. 133; and vol. v. p. 145 *et seq.*

Dr. Thurnam's work on the statistics of insanity has now been for some time before the profession, and has earned for itself a high character for ability and zeal in the compilation. Its author had been for a number of years the resident medical officer of the celebrated institution, known by the name of the "Friends' Retreat," near York, upwards of half a century in operation, but is now the resident physician of the Wiltshire lunatic asylum. The work before us gives every proof that Dr. Thurnam fully availed himself of the great advantages he possessed, in studying mental disease with effect, and embodying his experience in a publication which has taken its place, and justly, amongst the standard books of the day, its pages being replete with valuable matter, statistical and otherwise, connected with insanity; and our only regret is, that, our space being necessarily limited, we cannot afford to quote his important and practical views as largely as we could wish. The first extract we shall make is the following "summary" of the results of treatment in English, Scotch, Irish, and American asylums; which will be read with interest, and from which it will be seen that our own public asylums bear comparison very creditably with similar establishments at home and abroad; in fact, that they are higher in the scale of recoveries than all the rest, and lower in deaths, except in the Scotch asylums.

From the Opening of the several Asylums,	Proportions of Recoveries per cent. of the Admissions.	Mean Annual Mortality per cent. Resident.
Nine English county asylums, receiving paupers,	36·95	13·88
Six English county asylums, receiving paupers and (about one-third) private patients,	46·87	10·46
Eight English asylums, supported wholly or in part by charitable contributions, for pauper and private patients,	40·94	8·93
Seven Scotch asylums, receiving paupers and (about one-third) private patients,	42·37	7·52
Ten Irish district asylums, for paupers,	48·33	8·7
Five American (U. S.) asylums, for paupers and others,	46·82	9·56

On the subject of "mortality" in pauper asylums, the author draws the following conclusion:—"That a mortality which exceeds 12 or 13 per cent. is a very unfavourable one; and

that one which is much less than 10 per cent. is highly favourable."

With reference to "personal restraint," Dr. Thurnam expresses himself very guardedly and cautiously, as might be supposed, he being a disciple of the non-restraint school. He says:

"That the insane may, *in all cases*, be governed by *purely moral means*, I suppose all will regard as an *untenable position*; but still I believe we may conclude that there is no circumstance which more decidedly marks a faulty system, and none which is likely to be attended with more unfavourable results, than an *unrestrained* use of the means of *personal restraint*, whether these consist in long-continued seclusion, or in the mechanical restraint of the body or its members, either by instrumental means or, *what is usually worse*, by the *physical and manual force* of the attendants."

The italics in the above extract are our own; and we can only say that Dr. Thurnam has fully expressed the views of ourselves, and of all others who have maintained that restraint, under proper restrictions, is occasionally requisite, and cannot be altogether dispensed with, in certain cases.

The section on the "ventilation, lighting, warmth, and cleanliness of the apartments occupied by the insane," is well conceived, and deserving serious attention.

On the internal economy and government of hospitals for the insane, our author observes:

"There may be cases (as where the size of the establishment precludes there being more than one resident medical officer) in which the plan of having a visiting physician, in addition to the resident medical superintendent, may be the best practicable. But in that case the office of the latter, as regards the patients, should be *consulting*, and not *directing*. Which, it may be asked, are the establishments which, as a general rule, have contributed most extensively to our knowledge of insanity and its treatment,—those chiefly under the direction of resident or visiting physicians? And, again, we may ask, without unity of plan, and that energy of action which an undivided responsibility will be generally found to secure, what is it probable will be the character of the moral treatment, or indeed can any moral treatment worthy of the name exist? And what unity of plan can there be, when, instead of a single resident, directing head, availing himself of the observations and assistance of his younger or less experienced colleagues, we have a resident physician or other medical officer, whose responsibility is more or less lessened, as soon as a visiting medical officer enters the house, and who, to a like extent, is at least liable, however inadvertently, to have his authority and influence with the patients depreciated and diminished? It is perhaps hardly possible, except by living in an hospital for the

insane, for any one to be made aware of the disturbing effect which the visits of a non-resident medical officer, even when acting in friendly concert with the resident physician, may produce on the patients. A word, a look, or a gesture on the part of the one, is often sufficient to encourage hopes or excite fears, or, it may be, to revive delusions or propensities, to effect the suppression of which may have been the labour of weeks on the part of the other."

We so far concur in the above, as to have no hesitation in stating it as our opinion that an extern physician should not, most clearly, interfere in the slightest degree with the resident physician, in the management and treatment in ordinary of the patients, and general conduct of the institution, over all of which the resident medical officer should be vested with the entire surveillance and control, and accountable alone to the local authorities; but that he should merely give the benefit of his assistance in purely medical cases: and further, that in the event of a difference of opinion in the line of medical treatment to be pursued, the resident physician should carry out his own views, he being of necessity better acquainted with this peculiar kind of practice. Still we conceive that each larger hospital for insane patients should have an extern physician of eminence and respectability attached to it, to divide the responsibility with the resident officer in essential and more than ordinarily difficult medical cases.

We must here conclude our notice, however imperfect, of Dr. Thurnam's excellent work, one with which the library of every medical man desiring to be acquainted with insanity in its statistical and practical details should be furnished.

The Reports of the Inspectors of Lunatic Asylums in Ireland, the titles of which we have prefixed, are documents of the highest value, and which we have read with great interest and satisfaction. Both are drawn up in a manner very creditable to Drs. White and Nugent, and plainly manifest the zeal, industry, and attention with which they fulfil the important duties devolving on them. As Government officers in a most responsible department of the public service, and as officials, we have every reason to believe that the manner in which they execute their functions gives general satisfaction to all parties coming within the sphere of their inspection. And here we may remark that, until within the last four or five years, the inspection of all lunatic hospitals in Ireland was committed, strangely enough, to the Inspectors-General of Prisons; a combination of duties which was only too well calculated to keep up the vulgar notion that asylums were neither more nor less than a

species of gaols, and that "madness" was, by consequence, if not a crime, at least a disease of degradation. But, thanks to the enlightened spirit of the day, this most improper and unscientific mode of visitation has been obliged to give place to one conducted by professional men, and this, too, by the authority of Parliament; a clause (at the instance of Lord Monteagle, ever the friend of the insane in Ireland) having been added to the 8 & 9 Vict. c. 107(a), enacting as follows, viz. (clause 23):

"Whereas it is expedient that more adequate provision be made for the inspection of all lunatic asylums, under this and the hereinbefore recited Acts; now be it enacted, that the Lord Lieutenant, or other Chief Governor or Governors of Ireland, shall be, and he or they are hereby empowered, if they shall so think fit, to appoint one or two duly qualified and experienced persons to act as inspectors of lunatics in Ireland; and on such appointments the functions of the Inspectors-General of Prisons in Ireland, so far as they relate to the inspection of lunatic asylums, or other establishments for lunatics, shall be transferred to such inspectors of lunatics, so to be appointed under this Act," &c.

Under the foregoing provision, accordingly, a new order of things, in connexion with the surveillance of the insane, came into operation in 1845; but in the first instance one inspector only was appointed, Dr. White, who, having been Inspector-General of Prisons, was simply transferred to this new department, for the performance of the duties of which no more "duly qualified and experienced person" could have been selected. Though, on the other hand, we cannot but greatly regret that by this change the prisons have never since had the benefit of one of their inspectors being a medical man, and which it was generally understood, at the time of Dr. White's appointment to them, would for the future be the case. A second inspector, Dr. Nugent, was associated with Dr. White in December, 1846, for the inspection of asylums.

From this digression we now proceed to analyze shortly some of the more important features of the Inspectors' Reports. And first we find that their visitations amongst the insane throughout Ireland, during a period of two years, amounted to 564, with an aggregate travelled distance of 14,600 miles; and that, from personal observation and inquiries on these manifold occasions, they felt justified in stating that the district asylums were deserving of the highest commendation for the efficient

(a) This Act received the royal assent the 8th August, 1845, and is entitled, "An Act for the Establishment of a central Asylum for Insane Persons charged with Offences in Ireland," &c.

manner in which they were conducted. There is one portion of the Report that shows the advantages to the profession of having medical inspectors. We refer to the statement made where the appointment of Dr. Esmonde White (formerly the visiting physician) as "manager" of the Carlow district lunatic asylum is alluded to, namely, that the Lord Lieutenant had thus recognised the principle of appointing professional gentlemen as resident managers, which was to be carried out for the future in the hospitals for the insane in Ireland. This authoritative announcement we have read with no small satisfaction; but we would be still better pleased to find that so important a matter relating to the due efficiency of our otherwise admirably conducted public establishments for the insane in Ireland, was not to be left to the discretion of any Lord Lieutenant, but that it was mandatory on the part of Government to appoint none but a medical practitioner to the chief office and superintendence of an asylum, in the same manner as in other countries. The title "manager" should be discontinued, now that physicians are for the future to be appointed; and the term "Hospitals for the Insane" should be substituted for "Lunatic Asylums."

As regards new asylums, the Report informs us that six new district asylums had been decided upon by Government, to be built in the following localities, viz., Cork, Killarney, Sligo, Omagh, Kilkenny, and Mullingar. We regret, however, to find that these are to be three stories high, instead of two, which is generally admitted by practical men to be the best adapted for establishments so peculiarly circumstanced. Dr. Conolly says on this point:

"The more experience I have of the duties to be performed in a lunatic asylum, the more strongly I become impressed with the inconveniences attending any part of the building consisting of more than two stories. The third story is difficult of access and egress for the patients; it is unavoidably dull, and it becomes unavoidably neglected. It is equally opposed to good classification and to proper superintendence; and it causes too many insane persons to be included in the same extent of ground, rendering ventilation more difficult, and decreasing the healthiness of the establishment"(a).

These are very serious and really cogent and well-founded objections to three-story buildings; and we hope that the Inspectors, who have manifested the most laudable zeal and humanity on behalf of the insane poor of Ireland, will use

(a) On the Construction and Government of Lunatic Asylums. By John Conolly, M. D., p. 10.

the weight of their influence and position in having the old plan of buildings, as regards the height, continued for the future in any new asylums that may be erected. The proposal of erecting them three stories high is a most miserable attempt to sacrifice utility to what can be but a paltry economy.

The new and existing asylums will accommodate 4500 inmates, which it is expected will be found sufficient to supply the wants of the insane poor of the whole of Ireland.

With reference to the statistics of insanity and idiocy in Great Britain and in Ireland, it appears that in England the ratio of insane persons to the population is as 1 to 870; in Scotland and Wales, 1 to 740; and in Ireland, 1 to about 900: whilst the ratio of the idiotic to lunatics is in England nearly as 2 to 3; in Wales, 2 to 1; and in Ireland, 1 to 2½. These are exceedingly interesting points, and deserving of much attention.

Concerning the admissions and discharges and deaths in the district asylums during the years 1847 and 1848, we collect the following data from the Report before us:

Admitted in 1847,	947	1848,	491
Discharged cured, &c.,	540	„	600
Died,	422	„	306

By the above a very satisfactory diminution appears in the number of deaths in 1848, and also an increased amount in the number discharged cured, which, as the Report states, is very encouraging.

The Report then goes very minutely into the subject of committing persons to gaol as dangerous lunatics, which we cannot find space to copy. Our opinion is, that a gaol should never be had recourse to for the confinement, however temporary, of a lunatic stated to be dangerous; and we are perfectly satisfied that there is great room for improvement in this respect, at the same time that we see plainly the Inspectors have been attending to it with much vigilance, and will not cease their exertions, we feel confident, till they have the gaol committals altogether abolished; for, above all, it should be remembered that the continuance of the system is but too well calculated to make insanity appear in a criminal light, which every means should be used to do away with.

On the subject of criminal lunatics, and the asylum for this class, erected by Government under the provisions of the special Act of Parliament passed in 1845(a), the Inspectors

enter very largely and ably. From them we gather that the criminal asylum is calculated to accommodate 120 inmates; and that, up to the period of their Report, the criminal insane amounted to 138, of various classes as to crime. We think it is a matter of the first moment that this class should be placed in a distinct institution, and we rejoice to find that Ireland has set the example of doing so.

In Appendix No. I. of the Report is contained a long and important correspondence between the Inspectors and the Board of Public Works, respecting several details in the erection, &c., of asylums, which we regret we can do no more than simply refer to; observing, that, in our view of the matter, the Inspectors alone should be the judges of the fitting size of a room, dormitory, &c., and such points of detail, and not the Commissioners of the Board of Works, who would appear to be inclined to exercise an *imperium in imperio*. We quite agree with the Inspectors that corridors of a good width are of great importance; and which, we think, would be all the better if at least twelve feet in width, and not ten, as the Commissioners insist upon. The low boundary walls we conceive are most objectionable, and will be found, in practice, a fruitful source of annoyance of various kinds, more especially from escapes of patients, &c. And, as regards dormitories, we cannot but regret to find that it is contemplated to have them larger than to contain six or eight as the maximum. Dr. Conolly's views and our own are quite in unison on this subject also. He says :

“ In all asylums the proportion of single bed-rooms appears to me too small; and I always recommend architects to have such rooms for at least two-thirds of the number of patients to be received into any proposed asylum. A few dormitories, containing not more than four or five beds in each, are useful in an asylum, But in favour of large dormitories, I do not know one good reason that can be advanced. Those who sleep in them are generally discontented. The air of such large sleeping rooms becomes indescribably oppressive when the patients have been two hours in bed; and it never becomes quite fresh and pure, although all the windows and doors are open in the longest and finest day. One patient accidentally noisy, disturbs the repose of fourteen or fifteen; and out of that number there is often some one noisy”(a).

The Inspectors, we perceive, intimate it as their opinion, that a class of persons, not strictly paupers, should be admitted into the district asylums as paying patients, at the average cost

(a) *Op. cit.* p. 24.

of maintenance; a recommendation which we hope will never be carried into effect, our opinion being that it would be an invasion of the rights of the poor to permit the admission of any patient into our public pauper asylums for payment. It would be opening a door to the gravest abuses and acts of injustice towards the strictly pauper patients; and it would soon be found that parties who could very well pay the lowest rate of board in a private asylum would take advantage of the district asylums, no matter how stringent the precautions might be to prevent the same. There is no shutting of the doors of our public asylums against parties not actually paupers, as the Inspectors appear to intimate. If an affidavit be made that the applicant is a poor person, and that there are not means sufficient to place him in a private asylum, he, as a matter of course, is eligible to be received as a pauper patient, and is received accordingly; and surely if the lowest cost of the cheapest private asylum cannot be met, there need be no hesitation or conscientious scruple in having recourse to a public asylum. Let the district asylums, then, be kept up in their integrity, and not injured in and perverted from their legitimate use by having payment of any kind received. The rights of the insane poor, we emphatically say, ought not to be invaded in this manner; or the position of the non-paying class made a matter of taunt and affront, as it constantly would be, within the walls of the asylums, were a pauper paying class—so to speak—once admitted within their walls.

In Appendix No. III. is a very interesting table (No. 1), showing the total number of insane persons in Ireland (including idiots and epileptics) to be 5678, of whom 2603 were in the district asylums, 432 in private asylums, and the remainder in union workhouses, gaols, and local asylums.

Table No. 8 in the above Appendix contains the total expenditure of the eleven district asylums for the years 1847 and 1848, which in salaries and allowances to officers amounted to £12,218 17s. 6½d.; ditto to servants, £14,784 14s. 10½d.: making a total of salaries, wages, and allowances, of £27,003 2s. 5d. Total expenditure of the two years for patients, £88,280 15s. 4½d. Average annual cost of each patient for the same period, £17 7s. 8d., with a daily average number of patients of 2605¼.

We cannot conclude our analysis of the Inspectors' Report on the District Asylums without again expressing our sense of the admirable manner in which it has been drawn up, and the large amount of really valuable information which it contains, connected with our Irish asylums; nor must we omit to state that the whole management of these institutions is most credit-

able and honourable to all parties concerned in their superintendence.

The next part of our subject we mean to notice is the Report of the Inspectors on the state of the Private Lunatic Asylums in Ireland. We may preface our observation with the following satisfactory extract:

“It is with no small degree of satisfaction we are enabled to acquaint your Lordships that the houses authorized to receive insane persons in this kingdom, notwithstanding the difficulties and discouragement to which many of the proprietors have been subjected from the depression of the last few years, generally speaking, are maintained by them with becoming liberality and order; and that a laudable disposition exists on their part to adopt our suggestions and to meet our wishes.

“During the past year no complaints of severity or unkindness have been transmitted to our office, notwithstanding that the patients are at liberty to communicate by letter with the Inspectors (a very questionable privilege). And although we have visited every private institution three, four, and many even on more occasions, since the date of our last Report, we have had no charge of harshness submitted to us sufficient to warrant any particular investigation.

“The sanitary returns from private asylums have been most favourable, and not a single death from Asiatic cholera has been recorded.”

The Report then states that the private asylums generally have distinct residences for each sex, mentioning Dr. Jacob's at Maryborough, as being admirably conducted in this respect; as also Dr. Eustace's at Hampstead, and Dr. Duncan's at Finglas; especially observing on this head that Dr. Gregory, at Bellview, deserved high commendation for the improvement effected by him, in common also with the Retreat Asylum under the care of the Society of Friends.

We observe a remarkably and strangely large proportion of males to females in private asylums, the former being nearly double the latter; this may be accounted for by the excitement and altered circumstances of the country, which in the better classes was more likely to be felt by the males; and yet according to the statistics of insanity in this country, which have been collected with the greatest accuracy, a preponderance of about 16 per cent. appears on the side of females, on an aggregate of nearly 12,900 individuals labouring under imbecility of mind or disordered intellect.

The annexed is a summary of the state of the private asylums, as to admissions, &c., for 1849, with which we must con-

clude this Report, and which, like the one preceding, contains much information well arranged.

In asylums 1st January, 1849,	432		
Admitted since,	130		
<hr/>			
Total under treatment during the year, .	562		
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	Males.	Females.	Total.
Discharged cured,	34	22	56
„ improved,	26	11	37
„ not cured,	7	7	14
Died,	18	10	28
Remaining in asylums 1st January, 1850,	244	183	427
<hr/>			
			562

The professions or employments of the patients admitted in 1849 were as follows:

Males.		Females.	
Army and Navy,	13	Teachers,	5
Clerical,	4	In general trade,	3
Legal,	3	Milliners,	2
Medical,	2	Religious(?),	1
Merchants or Traders,	27	No occupation,	35
Clerks,	9	<hr/>	
Farmers,	11	46	
No occupation,	15	Males,	84
<hr/>		<hr/>	
Total,	84	Total,	130

Sir Alexander Morison’s goodly sized volume “ on the Nature, Causes, and Treatment of Insanity,” is a very valuable and creditable addition to the literature of the day on mental affections. His field of observation in the treatment and management of the insane has been extensive and varied, having been professionally connected with Bethlehem Hospital for a series of years, besides being the visiting physician of the Surrey County Lunatic Asylum, and consulting physician, “ in cases of difficulty and emergency,” to Hanwell Asylum. A novel and unique feature in this publication is its containing admirably executed and instructive plates, twenty-two in number, of patients whilst the subjects of insanity in its various forms, and subsequently after recovery had taken place.

The publication before us cannot be said to contain anything particularly novel as regards the treatment of the insane, which, however, detracts nothing from its value. We shall now proceed to give a few extracts from the work, and first as

to the classification of insanity, relative to which the author says:

“The arrangement proposed by Drs. Pinel and Esquirol, founded on the morbid manifestations of the mental functions, appears to me to be best suited to the present state of our knowledge of the brain and of its faculties; it is as follows:

“FIRST, MANIA. *Characterized by general delirium.* The mind is vigorous; the ideas are abundant, erroneous, wandering, not under control; the manners are violent, excited, vehement.

“SECOND, MONOMANIA. *Characterized by partial delirium.* The mind is vigorous; the ideas are few, erroneous, fixed, not under control; the manners are in conformity with the prevailing idea, or trains of ideas, as of pride, fear, grief, &c.; or propensities, as of suicide, &c.

“THIRD, DEMENTIA. *Characterized by weakness of the intellect, induced by accident or age.* The mind is weak; the ideas are confused, obscure, vague, incoherent, not fixed; the memory is impaired; the manners undecided, childish, silly, easily led; the patients are ignorant of time, place, quantity, money, property.

“FOURTH, IDIOCY. *Characterized by partial or total absence of the intellect, either congenital or occurring in early life.* The mind is not developed; the ideas are few or none; the sensibility is obtuse; the manners are childish, with occasional transient gusts of passion; the countenance is vacant; the articulation and the gait are imperfect.

“PROGNOSIS. Insanity cannot be said to have a directly fatal tendency, since it happens that persons labouring under it live to an advanced age, particularly if the form of the disease be mild; nevertheless it must be allowed that it frequently exercises an indirect influence in abridging the duration of life. With regard to the probability of curing it, a hasty prognosis is to be avoided, as it is time alone that can enable us to decide. It may be said that the prognosis is more favourable in early than in advanced life, although cases commencing after 60 have recovered. It is more favourable in mania than in monomania. Chronic dementia and idiocy may be considered incurable. The chance of recovery is greater on the first than on subsequent attacks. The probability of cure is greatest in puerperal insanity. When the state of excitement is succeeded by melancholy, and when, after a raving paroxysm of considerable length, the patient inclines to be quiet, and to sleep, the prospect of cure is considerable.

“CAUSATION.—The causes of insanity have been in more modern times arranged into predisposing and exciting. Hereditary predisposition, the puerperal state, and the cessation of the menses, being examples of the former, and moral emotions, as fear, grief, remorse, or jealousy, of the latter. The division our author adopts is that of *physical* and *moral*, the difference from the above being that moral causes do not always act *directly* upon the brain, but sometimes *indi-*

rectly produce insanity. Physical causes grow out of moral, and these frequently lead to insanity.

“AGE.—Under the age of puberty the human race is almost entirely exempted from insanity, although instances have been recorded to the contrary. From 20 to 30 is more dangerous for men than from 40 to 50; whilst for women it is the contrary, insanity being more frequent amongst them from 40 to 50 than from 20 to 30. From 50 to 60, also, there are more women than men insane. In both sexes it is found that the disease is absolutely rare before 20, and after 60.

“OCCUPATION.—Labourers and others who are exposed to excessive heat in the open air occasionally become insane, as well as those, also, who are exposed to intense heat from furnaces, as sugar-bakers and glass-blowers. The middle and upper classes are not more exempted than the lower. In particular it has been observed, that those who change an occupation of habitual activity for a life of idleness, frequently become insane. It has been said that artists, musicians, actors, and also poets, are peculiarly liable to the attacks of this disease; but, in admitting this, it must be borne in mind the irregular life to which many of these classes are addicted, as well as the numerous checks and slights to which their self-love and vanity are exposed. Merchants are much exposed to the disease, and the medical profession is not exempted. Lawyers, however, have been said to be less exposed to insanity than any others in a similar rank of life. It appears that the number of insane in the race of kings is in the proportion of 1 to 70. Upon the whole it is found that the two extremes of society furnish the greatest number of insane.”

The treatment of the insane, as we collect from our author and other experienced sources, consists in the use of medical and moral means, principally the latter; for in those cases in which all the physical functions are normal in their action, and the general health good, it would be worse than useless dosing the unhappy patient with drugs. Sleeplessness being a general and very troublesome attendant upon insanity, particularly in its first stage, it is a matter of much moment to obtain rest for the patient, and hyoscyamus in pretty large doses is a safer hypnotic than opiates. The regular use of the warm bath, so as to promote the cutaneous exhalations, is of the first importance; and in those cases accompanied by high excitement, the shower bath being allowed to descend upon the patient's head, whilst the warm bath is being used, is much recommended, both together being found very efficacious in allaying excitement. Attention to the alimentary canal is indispensable, but too active purgations should, as a general rule, be avoided; and depletion, whether local or general, is, by the most experienced, discountenanced almost entirely in the treatment of the disease. Nourish-

ing, if not generous diet, well cooked, and regularly supplied, together with warm clothing, should be scrupulously afforded, with as much out-door occupation as possible; for of all the means of employment none is so salutary or productive of good generally to the patient as being engaged in open-air pursuits.

The pathology of insanity, we may observe, is very obscure, and throws little light comparatively on the disease. In some cases the pericranium is found to be very adherent to the skull, and in others it is remarkable for its looseness. With respect to the cerebral mass itself, the most opposite states have been noticed, some brains being very firm and hard, and others unusually soft. The cerebellum, as a general rule, is found softer than the cerebrum. Morbid anatomy has not been of so much utility in our researches into the seat of mental alienation, as it has been in regard to that of other diseased states. It has not hitherto demonstrated the nature of the change produced in the brain; for, except the malformation of the skull and its contents inducing idiocy, nothing that is decisive has been obtained in reference to insanity from any variations in appearance that have hitherto been detected.

“Esquirol,” to quote from our author, “opened the bodies of no fewer than three thousand persons who died in an insane state; and yet he says that he would be at a loss to tell what is the precise part of the brain diseased. Greding, Pinel, and Haslam have also drawn nearly similar conclusions.”

We must now leave our author, whose volume we strongly recommend to our readers, as being one that will amply repay a perusal of its modest and unassuming, but not less instructive and practical pages.

We have next to notice two recent publications which, for the sake of their authors, we wish had never seen the light. We refer to “Contributions to Mental Pathology,” by Dr. George Davey, and “Short Notes” in reply to the same, by Dr. J. M. Grant: “A Rowland for an Oliver”—“the bane and the antidote.” Dr. Davey’s “Pathology” has most wofully disappointed us. Its title and the author’s position made us anxious to read it, as we naturally expected to find, from such a source, a repast, if not a feast, on a subject still hidden and obscure; but we were doomed to reckon without our host; we had the cross but no crown, its perusal leaving us as much unenlightened and unedified as before. The author altogether mistook the proper title of his book, which more properly should have been termed “Contributions to Vituperation.”

We cannot avoid expressing our opinion that he has laid himself open to a charge being brought against him, before the tribunal of the professional public, for presenting himself to their notice under questionable pretences. We much regret that during his long voyage homewards from Ceylon the anger and wrath with which he burdened himself from "the land of cinnamon and pearls" had not been allowed to evaporate on the "four winds," instead of being kept so carefully to explode in type at home. These "Contributions" are composed of laudation *usque ad nauseam* on the one hand, and of abuse *usque ad baculum* on the other; Dr. Conolly, of Hanwell (to whom we perceive the work has been dedicated), being bespattered with the most fulsome adulation *passim*, and Drs. Roe, St. John, and Grant, of Ceylon, as freely beshrewed and abused. Now, to show that we are not exaggerating the character we have given of Dr. Davey's so-called Mental Pathology, we have only to state that the work contains 300 pages, 106 of which are devoted to a preface and an introduction, and taken up more or less with the praise and dispraise of the above-mentioned parties; 156 to three annual Reports of the Lunatic Asylum at Ceylon; and lastly 38 pages to a "postscript" containing the first quarter's Report of the same asylum for 1849, ornamented with further displays of bad feeling, vituperation, and recrimination. We are exceedingly sorry to be compelled thus to express our opinion of Dr. Davey's work, but we had no other alternative; and having now discharged so unpleasant a duty, we have only further to say, that before he accepted the office of "Superintendent of the Asylum at Colombo," as conferred on him by Lord Stanley, the Colonial Secretary, he ought to have satisfied himself what his precise *locus standi* was to be there; but, having neglected to do so, on his arrival at Ceylon from England he should have made a virtue of necessity, conformed himself to the orders of the colonial authorities with the best grace he could, and co-operated with the civil medical officers in a far different spirit to that in which, unfortunately for himself, he thought proper to do. Dr. Grant's "Short Notes" we need not further refer to than to say that his only excuse for giving vent to so much of the "gall of bitterness" was great provocation. Altogether this whole affair wears a most undignified, unprofessional, and unbecoming aspect, and with these few remarks we beg to leave it.

"Lunacy and Lunatic Life," by the late Medical Superintendent of an Asylum for the Insane, is an interesting and unpretending little volume, containing a great deal of practical

and other matter in connexion with insanity, being written in a style calculated to be attractive to the unprofessional reader, and to disseminate no small share of useful information on a subject of great moment to be better understood than it is by the public generally.

“The Quarterly Journal of Psychological Medicine and Mental Pathology,” edited by Dr. Forbes Winslow, continues to uphold the high character which it attained at its commencement. The Numbers for April and July are rich in valuable matter; and altogether this periodical is one which is eminently deserving of the “golden opinions” it has won for the able and honest spirit in which it is conducted. We heartily wish it every success, and strongly recommend it to the notice of those engaged in the particular line of professional practice to which it is specially devoted.

Great inconvenience having long been felt by that branch of the medical profession in Great Britain and Ireland devoted to the treatment of insanity, owing to the utter want of anything like a systematic co-operation amongst its members, an effort was at last made to unite them together in a society which was established in 1843, under the name of the “Association of Medical Officers of Hospitals for the Insane;” its members having the following leading objects in view:

1. To communicate more freely the results of their individual experience, and to become better acquainted with each other.

2. To co-operate in collecting statistical information relating to insanity.

3. To assist each other in improving the general treatment of the insane.

4. To meet statedly at some place where there was a public hospital for the insane, and obtaining leave from the local authorities to fully inspect and examine into its entire management, and freely state their opinions thereon.

5. The reading and discussing original papers and essays on insanity, and the treatment and management of the insane generally.

The Association has met accordingly at several asylums, and amongst others at Lancaster, Devonport, Nottingham, Hanwell, York, &c., its last meeting being held, as we find by the Report now before us, at Oxford, which was well attended; and amongst other matters of interest that were discussed and disposed of, a valuable paper was read by Mr. Gaskell,—then

the medical superintendent of the Lancaster County Lunatic Asylum, but since appointed one of the paid Commissioners in Lunacy,—on the Construction of Lunatic Hospitals, in which was advocated a greater separation and detachment of the buildings, in lieu of having one large and continuous structure, as at present usually adopted; a paper which the meeting so fully approved of as to request that it might be published, passing at the same time a vote of thanks to Mr. Gaskell for the able and practical manner in which he had treated so important a subject. The Association we find was very hospitably entertained at the Warneford and Oxfordshire Asylums respectively, both of which institutions having been carefully and minutely gone over by the members, and the more important details of management of each examined into and discussed, a formal minute was made of their high condition, and the satisfaction afforded to the Association by personally witnessing their excellent arrangements in all essential respects.

An Association such as the above is calculated to effect an immensity of good, and will, we trust, obtain, as it should, the continuance and support of all the medical officers connected with our public hospitals for the insane in these countries. We may mention that the secretaries are,

Dr. Hitch, Sandywell Park, Cheltenham;

Dr. Williams, Gloucester County Lunatic Asylum; and

Dr. Stewart, Belfast District Lunatic Asylum.

The separate Annual Reports, to March, 1850, of the District Lunatic Asylums of Belfast, Maryborough, Clonmel, and Carlow, are all very interesting documents, each of which we shall now consider.

The Belfast Report now issued is the twentieth which has been published, the institution being in operation since 1829. It has been drawn up, as usual, by Dr. Stewart, the resident physician, and, as on former occasions, in noticing his reports, we felt it but right to hold them up as models for other asylums, especially as regarded the copiousness and good arrangement of their statistical contents,—one amongst many of the advantages arising from a professional man being the resident of such institutions,—so in the present instance we have again to accord the meed of our applause for the able, concise, and excellent manner in which this one has been executed, and the varied and instructive information its pages afford. During the year we find that the total number of patients under treatment amounted to 384, of whom 207 were males, and 177 females. Of these 52 were discharged recovered, and 21 relieved,

making 73 in all (35 males and 38 females); the deaths were 43 (25 males and 18 females), leaving in the house on the 31st of March, 1850, a total of 268 (147 males, and 121 females). The average daily number of inmates was 267·50, at an average cost for each patient during the year of £12 17s. 3d.; the total year's expenditure amounting to £3440 16s. 4d., which, as compared with the charge of maintaining the English pauper County Asylums, is exceedingly low, where the cost of each patient rates from £18 to £20. Indeed we cannot but here remark, that we greatly fear our Irish asylums for the insane poor, excellently managed though they are on the whole, have entirely too low a scale of dietary. In examining the dietaries of all the district asylums in Ireland contained in the Inspectors' Parliamentary Report, we do not find in one of them what we conceive to be a sufficiently substantial dinner—the breakfast and supper meals we cannot reasonably object to, but the dinner fare should not be made up principally of “broth,” not more or less *strong*, but more or less *weak*, it is to be apprehended. The best and most experienced writers on insanity all agree, that the disease is one of debility, especially amongst the poorer classes, and that a nourishing, if not a generous diet should be provided for those suffering from it. It is a most mistaken economy, we feel perfectly convinced, to be so sparing of solid substantial food in our public charitable institutions, especially in hospitals for the insane; and as the times in which our lot has been cast are of the progressive stamp, we hope soon to find that a good dinner of meat during five days at least in each week will be the established rule in our asylums, together with an allowance of malt liquor, an improvement from which we would augur the best results in the treatment of patients so unhappily afflicted: and here too we cannot but remark, and that too with our strongest disapproval, that the authorities of all grades, general, official, local, and residential, are too prone to consider that institution as being the best conducted which is the *lowest* in the scale of pounds, shillings, and pence, and so to hold out as it were a premium to stint the poor patients in every imaginable way. Let legitimate economy as a bounden duty be exercised to the utmost, but let it be secondary altogether to the comforts and proper physical support of our insane poor in this country.

But to proceed with our analysis of the Report of the Belfast Asylum, we find that as regards the alleged causes of insanity in the cases admitted during the year, eighteen were from grief and disappointment; sixteen from intemperance; fourteen from poverty; nine from fright; seven hereditary;

three from fear of want; three from injuries from falls; two from jealousy; one from epilepsy; and in forty cases no cause could be assigned. As to the forms of the disease, there were of mania sixty-seven; monomania, forty-five; dementia, eight. The social condition was:—married, fifty-four; single, fifty-eight; widowers and widows, seven. As to religion, twenty-six were Episcopalians; thirty, Roman Catholics; and sixty-four Presbyterians. There are several other interesting tables, &c., in the Report, which we are obliged to pass by in order to make room for the following extracts:

“ **DEATHS.**—The cases admitted during the year of completely exhausted constitutions, which no human means, however sedulously applied, could in any degree meliorate, were much greater than usual, notwithstanding all the precautions taken to avoid the receiving of such, and who are sent in merely, as it were, to add to the mortality casualties. Four died from one to four weeks after admission, seven from one month to three months, four from three months to six months, seven from six months to one year, thirteen from one year to five years, three from five to ten years, two from ten to fifteen years, and three from fifteen to twenty years; total forty-three. The causes of death were as follow, viz.:—general debility, eight, three males and five females; paralysis, six, all males; diarrhœa, five, three males and two females; epilepsy, four, three males and one female; maniacal exhaustion, three, one male and two females; pulmonary consumption, three, two males and one female; scrofulous affections, two, females; bronchitis, two, males; epidemic cholera, two, females; apoplexy, one, female; disease of knee-joint, one, male; rupture of a blood-vessel one, male; uterine disease, one, female; puerperal fever, one, female; typhus fever, one, male; chronic cerebral disease, one, male; gastric disease, one, male; total, forty-three. The ages of the deceased were: from 20 to 30, twelve, six males and six females; 30 to 40, ten, seven males and three females; 40 to 50, eleven, five males and six females; 50 to 60, seven, five males and two females; 60 to 70, three, two males and one female. The youngest of the males was 20, the oldest 63; the youngest of the females was 22, and the oldest ditto 62. Average age of all, 40½ years.

“ **GENERAL TREATMENT; RESTRAINT; RECOVERIES.**—The same principles as hitherto continue to be sedulously acted upon, in the general treatment of the patients, and with equally satisfactory results. Every reasonable indulgence is freely afforded to them compatible with their safety and proper discipline; and no restraint by mechanical means permitted that can possibly be avoided. One grand principle is ever kept in view, and that is, to act towards them and treat them as if they were perfectly sane; a principle which is of the utmost importance, not only as regards themselves, but also and especially as regards the attendants who are earnestly importuned to hold the same steadily in view, in all their inter-

course with, and conduct towards, them. The number of recoveries, during the year, it will be seen, amounted to fifty-two, which, on the total number treated, embracing chronic and recent cases, was in the proportion of 14 per cent. nearly, or if calculated on the 'new cases' (amongst which the greatest amount of recoveries necessarily occurs) was about 45 per cent.

" **APPOINTMENT OF DR. M'CORMAC.**—Soon after Dr. Thomson's decease, Dr. M'Cormac, a long established and eminent practitioner of Belfast, was appointed visiting physician by the Lord Lieutenant, since which he has been regularly attending the Institution, and taking much interest in its welfare, and the advancement of its benevolent objects.

" Dr. Mulholland's duties, it need scarcely be stated, continue to be fulfilled in their usual regular and effective manner.

" **OFFICIAL INSPECTION.**—In my inspection of the Belfast Lunatic Asylum, this day (June 5, 1849), I found the house itself in its usual state of order and cleanliness, whilst the patients, judiciously employed and carefully attended to, reflect the highest credit on the resident physician, Dr. Stewart. This being my first visit since the death of our late amiable and highly-informed attendant physician, Dr. Thomson, I deem it but justice to his memory to state, that with the utmost professional care of the inmates of this establishment, he conducted himself with a delicacy towards the governors, and various officers of the Belfast District Asylum, so as to command their unqualified respect and admiration. I trust that the same most desirable system, which heretofore characterized the management and treatment of lunatics, in this Institution, will be continued, satisfactory as it must be to all parties, and eminently beneficial to the patients.

" (Signed),

'JOHN NUGENT.'

According to the Report (seventeenth) of the Maryborough District Lunatic Asylum, there have been received into it since its opening, from 1st April, 1833, to 31st March, 1850, a total number of 868 patients,

Of whom were discharged cured or relieved, .	462
Ditto, unrelieved,	33
Died,	199
Remaining in Asylum, March 31, 1850(a), .	195

(a) We give these numbers as we find them in the printed Report; but they are not correct: "the unrelieved," for instance, should have been brought out in the "total" column 43, and not 33; viz.:—"King's County, 14; Queen's County, 20; Westmeath, 7; Longford, 2," = 43. Again, it will be seen that, on adding the "discharges, deaths, and number remaining," which should correspond with the total number of admissions, a gross amount of 889 is produced, or, more correctly (on including the above error of 10) 899, thus making the considerable difference of 31.

Return of patients for one year, to 31st March, 1850:

Admitted from 1st April, 1849, to 31st March, 1850, . . .	43
Re-admitted, having relapsed, same period,	11
Discharged cured, or relieved, same time,	37
Died, in one year, to 31st March, 1850,	19

The sexes have not been given in the above return; but of the 195 remaining in the asylum on the last day of the year, we find that there were 97 males and 98 females, which is a very remarkable correspondence as to sex.

The dietary consists of a quart of stirabout made of eight ounces of oatmeal, and one-third of a quart of new milk, for breakfast each morning; for dinner, on four days in the week, the allowance is twelve ounces of "bread" for males, and ten for females, with a pint of buttermilk or skim milk; and the same meal, for three days, consists of a quart of soup made of half a pound of "beef and bone," or beef heads, with twelve ounces of bread for males, and two ounces less for females; and for supper six ounces of "white bread" and one-third of a quart of new milk are served out each evening. The cost of the above diet is stated to be 4½d. per diem, which in all conscience is low enough. The medical officer, as a matter of course, is authorized to change the diet for any patient as he may consider necessary. The total farming produce for the year amounted to £144 12s. 5d., and the total sum expended in the maintenance of the establishment during the year was £3432 17s. 8d., which made the average cost per head of each patient £17 8s. 6d. Ample and varied employment for the inmates is provided, none of these being unoccupied who are at all capable of being employed, which speaks very well for the institution.

We had nearly forgotten to observe, that the "total non-restraint" system is stated in the Report before us to be "strictly adhered to," a statement which we do not mean to doubt in the slightest degree, neither its feasibility; but still we are much at a loss to understand how it can be said to be "strictly adhered to," when, in the same paragraph announcing this so pointedly, we find this sentence:—"Strong dresses are provided for such patients as destroy their clothing, and are so secured that they cannot strip themselves. Such patients have the free use of their hands [what of their arms?] and feet [what of their legs?] at all times." If this be "strict adherence to the total non-restraint system," we confess that we have hitherto misunderstood its meaning.

The Annual Report of the Clonmel Lunatic Asylum, drawn up by Dr. Flynn, the resident physician, is a very well-ar-

ranged and satisfactory document, evidencing much care and ability, and containing a large amount of interesting matter, but so pressed are we for space, that we are compelled to be very brief with our notice of it. The Report shows that the number of patients under treatment during the year was 163 (83 males, 80 females); the discharges in cured amounted to 24 (11 males, 13 females); and two (one of each sex) were discharged not cured. The mortality was very low, being 9 only (7 males, 2 females). The causes of death were as follow : cholera (Asiatic), 1; general debility and exhaustion, 3; dysentery, 1; epilepsy, 1; anasarca, 1; general paralysis, 1; and one for which no cause has been assigned. The following are the employments of the patients:

Farm and garden, . . .	20	males,	0	females,
Pumping water, . . .	3	„	0	„
Miscellaneous, . . .	4	„	3	„
Washing in laundry, . .	0	„	13	„
Assisting in wards, . .	7	„	8	„
Spinning,	0	„	2	„
Knitting,	0	„	6	„
Needlework,	0	„	8	„
	—		—	
	34		40	
Idle,	30		21	
Ill in bed,	0		3	
	—		—	
	64		64	

In this asylum it will be seen that the sexes are exactly the same, and that in Maryborough there was but a difference of one, which are unusually close approximations.

The “actual” sum expended during the year in maintenance, &c., was £2304 3s. 9d., the average cost of each patient being £17 10s. Dr. Flynn makes some remarks on the subject of recovered patients being unable to be given over to responsible persons to take charge of them on leaving the asylum, a difficulty which he intimates “a clear and comprehensive Act of Parliament” could prevent; but we fear greatly no Act of the Legislature, comprehensively and clearly framed as it might be, could provide for the removal of a difficulty of the kind. All similar establishments are continually meeting with such cases. Referring to the Inspectors’ efforts to have medical men as superintendents, the following complimentary allusion is made:

“I cheerfully bear humble and disinterested testimony to their (the Inspectors’) frequently and emphatically expressed desire to aid

in removing those prison barriers which, until a recent period, so sternly and so successfully excluded medical men of *all* colleges from their legitimate position as resident medical superintendents of essentially medical institutions; over which in England, Wales, and Scotland, as well as in every other civilized country in the world, *none but medical men of the highest attainments can legally preside*. This desire on the part of the Inspectors has been well and ably seconded by the substantial labours of many of the leading medical periodicals of Great Britain and elsewhere, to which the members of the profession in Ireland owe a deep and lasting obligation."

In our review of the Inspectors' Parliamentary Report we have mentioned their satisfaction in being enabled to state that the Carlow Lunatic Asylum had now the advantage of being superintended by Dr. Matthew Esmonde White, formerly its visiting physician. His own Report of that institution comes next before us, and it is almost needless for us to say that its compilation reflects much credit on him, being succinct, comprehensive, and exceedingly well arranged.

We shall now give a short summary of the Report, commencing with Table I., which refers to the admissions, &c., during the year :

	Males.	Females.	Total.
Admitted to 31st March, 1850,	24	24	48
Relapsed cases,	6	5	11
Cases remaining 31st March, 1849,	108	90	198
<hr/>			
Total under treatment during the year,	138	119	257
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Discharged recovered,	12	14	26
,, relieved,	4	6	10
,, unfit,	0	1	1
Escaped,	2	0	2
Died,	10	7	17
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Total discharged, died, &c.,	28	28	56
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Remaining 31st March, 1850,	110	91	201

Twenty of the patients admitted were between 20 and 30 years of age; seventeen between 30 and 40; fifteen between 40 and 50; five between 50 and 60; and two were under 20.

Of the causes assigned for the disease, the largest number, 14, were of an hereditary nature; 11 from embarrassed circumstances; 5 from fever; 5 from grief; 3 from epilepsy; 3 from fright; 3 from intemperance; 2 from over mental exertion; and 1 from cholera: thus showing that the physical causes

were 26, and the moral 21. In twelve cases no cause could be stated.

Religion.—Protestant, 5; Roman Catholics, 54.

Social State.—Married, 17; single, 30; widows, 3.

Unknown.—9.

The married state, then, would appear to effect much in favour of sanity.

Occupation.—22 were of the agricultural class; 16 of the class of house servants, &c.; 4 each of the mechanical, commercial, and studious rank; 2 military; and 7 unknown.

Education.—Well educated, 9; writers and readers, 19; readers only, 12; uneducated, 14; unknown, 5.

Here, unfortunately, education appears to weigh down largely the insane scale; but no fair conclusions can be drawn on this or any other point from an isolated Report; at the same time that it is somewhat unusual to meet with so large a number of the educated as subjects of the disease, mental culture being generally considered a prophylactic against its attacks.

Causes of Death.—5 from phthisis (a prevalent disease amongst the insane); 4 from exhaustion and marasmus; 3 from apoplexy; 1 each from cancer of the liver, dysentery, epilepsy, pneumonia, and paralysis peculiar to the insane (termed general).

By Table XV. we perceive that the inmates to the amount of 152 were engaged in various useful employments; a very large proportion, indeed, and very satisfactory, too. The quantity of profitable and useful work executed during the year is given in detail, and cannot but be considered most commendable.

The dietary is nearly the same as in Maryborough, only that the supper meal is more liberal.

The gross expenditure of the year amounted to £2991 14s. 8d. (making the average cost of each patient £15 0s. 8½d.), in which we see included the large sum of £30 13s. 6d. for that odious weed, tobacco. We would respectfully request Dr. White to endeavour to banish its use from his otherwise excellently conducted institution. We know it is more or less sanctioned in all our asylums, but it is high time to put it under the "total restraint" system.

One more extract, and we must close our notice of this valuable Report, the whole scope and spirit of which reflects no small credit on its learned author. It is as follows:

" The medical profession should feel deeply grateful to the Inspectors-General and the Government for establishing this new system (that of having resident physicians); and I feel satis-

fied it will, on further trial, be found to work equally well in promoting the comfort and recovery of those under our care in the district asylums of Ireland, as in affording the members of the profession a fresh field wherein to labour for the advancement of scientific knowledge, and the increase of the usefulness, the honour, and dignity of the medical profession."

The Annual Report of the Royal Edinburgh Asylum for the Insane, on our table, is for the year 1849, and we have perused it with much satisfaction. Dr. Skae, the resident physician of the establishment, is a gentleman holding a high place for professional talent of the first order, and whose conduct of the Edinburgh Asylum has won for it the greatest and not less deserved praise. We have had an opportunity of personally visiting this asylum ourselves, and can therefore bear the fullest testimony to its excellent and humane management in all respects. The Report, as drawn up by Dr. Skae, is a very elaborate one, going very minutely into details, all, too, of an interesting and instructive character, but which, unfortunately, from the length to which this article has already extended, we cannot more than allude to. The section under the head of "spontaneous applicants," is both curious and instructive, especially the account which a patient wrote of his own case and feelings, which Dr. Skae has inserted in the Report. The "occupation" of the inmates is another important item in it, as also the account given of their amusements.

	Males.	Females.	Total.
The amount of patients in the Asylum at the close of 1848 was .	228	245	473
Admitted during 1849,	109	156	265
Total under treatment, . .	337	401	738
Discharged,	71	112	183
Of whom were cured,	42	77	119
" " uncured,	29	35	64
Died,	42	37	79

The ratio of recoveries was 45 per cent. on the admissions, or 25 per cent. on the mean number resident.

In the table of causes of disease in those admitted, we find forty-nine arose from intemperance (being 18·5 per cent.), a cause which Dr. Skae observes "has numbered its victims with as much certainty, and even more frequency than in former years."

The causes of death were as follow:—phthisis, 17 (5 males, 12 females); diarrhœa, 14 (10 males, 4 females); dysentery, 8

(3 males, 5 females); general paralysis, 11 (8 males, 3 females); pleuro-pneumonia, 6 (2 males, 4 females); apoplexy, 4 (2 males, 2 females); exhaustion, 4 (2 males, 2 females); epilepsy, 3 (1 male, 2 females); chronic abscess, 2 (1 male, 1 female); bronchitis, 2 (1 male, 1 female); paralysis, 1 (female); pneumothorax, 1 (male); pericarditis, 1 (male); heart disease, 1 (male); peritonitis, 1 (male); strangulated hernia, 1 (male); chronic vomiting, 1 (female); erysipelas, 1 (female).

The Dundee Royal Asylum for Lunatics has published its Thirtieth Annual Report, to June, 1850. Dr. Wingett is the resident medical superintendent, having been comparatively recently appointed to that office, the duties of which the Directors state he discharges with the utmost zeal, ability, and attention. The Dundee Asylum has always maintained a very high character, in common with the other establishments for the insane in Scotland, all being most admirably and humanely conducted, and all having the advantage of the superintendence of professional men of the highest worth and attainments. This asylum had under treatment during the year, 257 patients (135 males, 125 females), 28 of whom (13 males, 15 females) were discharged cured, and 10 (3 males, 7 females) improved; 4 (1 male, 3 females) by desire; and 11 (8 males, 3 females) died; leaving in the house on the 17th June, 1850, the total number of 204 (107 males, 97 females). The daily average number of patients was 200. This institution, in common with all the Scotch asylums, receives, besides pauper patients, those of the wealthier classes also, who are provided with every attendance, &c., according to the rate of board that may be fixed upon, an arrangement which seems to work well there.

The Twenty-third Annual Report of the Perth Royal Asylum, to June, 1850, gives a full and satisfactory account of the state and general management of that institution, which, at the conclusion of the year, contained 168 inmates (91 males, 77 females). The discharges, &c., were as follows:—recovered, 24 (11 males, 13 females); improved, 3 (males); unimproved, 1 (female); died, 12 (4 males, 8 females). The total number under treatment during the year was 208 (109 males, 99 females). The recoveries in this institution since its opening have been on an average 41·90 per cent. on the admissions, and the mortality unusually low, which, however, we observe is the case in the Scotch asylums generally.

The Orichton Royal Institution for Lunatics, at Dumfries, is second to none in Scotland for superior and eminently humane and scientific management. It is presided over by Dr. W. A. F. Browne, who has been attached to it as resident physician since its opening, about eleven years ago,—a gentleman of very superior professional attainments, as his Reports so fully evidence, always containing matter of a very original, elaborate, and suggestive character. The one now before us is the tenth, being the last published, which is up to November, 1849, and from which we learn that there were 201 under treatment during the year, 26 dismissed recovered, 5 removed or improved, and that 4 had died, leaving 166 in the asylum in November, 1849. The causes of death were:—hydrothorax, 1; intestinal ulceration, 1; paralysis, 1; syphilis, 1—a singular enough cause of death in a lunatic hospital.

According to the Annual Report of the Suffolk County Lunatic Asylum for the year 1849, drawn up by the resident physician, Dr. Kirkman, we perceive that that asylum has been established twenty-one years, during which period the admissions were 1604; the recoveries and relieved, 852, and the deaths, 492. The year's Report is as follows:—in the house, December, 1848, 262 (123 males, 139 females); admitted since, 80 (25 males, 55 females); total under treatment during the year, 342 (148 males, 194 females); of these were discharged cured, 44 (10 males, 34 females); relieved, 14 (9 males, 5 females); removed, 1 (male); escaped, 1 (male); and died, 30 (9 males, 21 females). The recoveries are stated to have exceeded any year since the asylum was opened, and the deaths to have been an average. On the subject of associating the criminal insane with ordinary patients, Dr. Kirkman makes some very just and appropriate remarks, observing that the universal testimony of medical officers of asylums is against the continuance of so pernicious a system, and refers to the satisfactory change made in this respect in Ireland by the founding of a criminal lunatic asylum, where all who have been guilty of criminal acts, and acquitted thereof on the ground of insanity, are to be kept confined, and no longer placed in the district asylums. The Report contains the particulars of a very interesting case, that of a female patient, who laboured under the delusion that God had abandoned her, and that she had lost her spirit, and had no soul, connected with which Dr. Kirkman makes some very judicious remarks as to the improper manner in which “the ultra-Calvinistic doctrines of repro-

bation" are pressed on the minds of susceptible and desponding persons, from which confirmed melancholia too often results.

The Bethlem Hospital Report for 1849 is compiled in a very clear and satisfactory manner; it states that the number of curable patients admitted during the year was 316 (124 males, 192 females); of whom 172 (66 males, 106 females) were discharged cured. The deaths amounted to 24 (10 males, 14 females). On the subject of attendants upon the insane, the Report very properly states the importance of insuring a superior order of such, as so much must necessarily be left to their discretion and management: and as regards the restraint of the insane, it gives a table showing the number under mechanical restraint to have been remarkably small during the year, with this pithy and "common sense" remark, that "to suppose that restraint is never necessary is overstraining the bounds of common sense. To reduce it to its lowest limits compatible *with safety* is an obvious duty."

The Lunatic Hospitals on the other side of the Atlantic are in general institutions of a high order, and deserving of the greatest commendation for the able and liberal manner in which they are conducted. But this article has already so far exceeded our limits that we cannot now do more than glance at one of them, the Eastern Asylum, in the city of Williamsburg, Virginia, of which the Report for the year 1849, compiled by its resident physician and superintendent, Dr. John M. Galt, is on our table. It tells us that the number of patients remaining in the asylum at the close of the year was 181 (107 males, 74 females); that the number received during the year was 50 (33 males, 17 females); the discharges 9, 7 as recoveries (5 males, 4 females); and the deaths 25 (13 males, 12 females).

The following observations on epileptic insanity we deem important, and give at length:

"Epileptic insanity is usually considered incurable. Epilepsy, I may be allowed to remark, seems now to be deemed more amenable to treatment than it was formerly supposed to be. Nitrate of silver is a remedy that has been lately more relied on than any other medical means. One of the most striking cases of benefit from its use has recently been communicated to me by Professor Laycock of Indiana. The disease in this instance was of twenty years' standing, and of very severe grade. It commenced at the age of four years, the paroxysms increasing from being monthly to tri-weekly. The patient was a robust man, and a hard labourer. No change was instituted in exercise or diet. The treatment was continued with oc-

casional intermissions for twelve months. The effect upon the skin was not perceivable by the patient or his friends, but Dr. Laycock detected it by close scrutiny, whereupon the medicine was discontinued. Since that period two years have elapsed without any return of the disease. The formula was as follows:—Nitrate of silver, one drachm; extract of gentian, half an ounce: to be made into 120 pills, of which one is to be taken three times a day, and gradually increased to twelve.”

On the subject of diarrhœa, Dr. Galt remarks very truly, that it is a common disease in lunatic asylums, apart from the variations of seasons, and often passes into intractable dysentery. “So liable,” observes Dr. Galt, “are the insane to such maladies, that many writers on mental alienation devote special remarks to diarrhœa and its kindred affections.”

In conclusion we will briefly notice a volume which we have lately procured, entitled “A Selection of Papers and Prize Essays on Subjects connected with Insanity, read before the Society for improving the Condition of the Insane.” The work is dedicated to the Earl of Shaftesbury, and contains ten papers or essays, on subjects more or less bearing on insanity and its treatment. Dr. Haslam, Sir A. Morison, Mr. Spencer T. Smyth, Mr. T. C. Morison, and Dr. Lockhart Robertson, being the names of the authors that are given of some of the papers. Dr. Haslam’s contributions comprise three of the ten, viz.:—1. “On Restraint and Coercion,” which is a very able one, and one which we would strongly recommend for perusal to all “total non-restrainers.” 2. “An Attempt to institute the correct Discrimination between Crime and Insanity.” 3. “On the Increase of Insanity, with an Endeavour to detect the causes of its Multiplication.” The fourth in the list is “a remarkable case,” by Sir A. Morison, that of a criminal lunatic in Bethlem Hospital, who regularly roasted the back of his head by stretching himself on a form he had placed close to a grate, containing at the time a large bright fire, and putting his head quite close to the bars, in which situation he was found by his attendant, who had temporarily left him. The lesions resulting from this roasting were, that the greater part of both parietal bones, together with part of the occipital bone and a large portion of the upper surface of the brain, were destroyed, ultimately causing death of course; but how long he lived, after sustaining so fearful an amount of injury, is not stated. It is remarked, that notwithstanding the above injuries, they did not produce any perceptible change in the mental condition of the patient.

We consider this a most interesting volume, and well deserving of being attentively studied.

Having now passed in review, as briefly as we could, the several publications, the titles of which are prefixed to this article, we may be permitted to say in conclusion, that it cannot but gladden the heart of the philanthropist to see what vast exertions are being made, what great things have been accomplished, and what still are in store for the relief and comfort of those who unhappily are suffering under one of the most lamentable ills that flesh is heir to, and how "judgment is tempered with mercy" towards them in the successful and earnest efforts made to watch over and to solace their affliction.

The Diseases of the Breast and their Treatment. By JOHN BIRKETT, F. R. C. S. E., Assistant Surgeon to Guy's Hospital. 8vo. pp. 264. (The Dissertation to which the Jacksonian Prize for 1848 was awarded by the Council of the College of Surgeons of England.) London: Longman. 1850.

A WORK from the pen of a prize essayist comes before the world under circumstances and conditions far different from those which attend the publication of an ordinary book; and this is especially true of those treatises on particular departments of medical science which have been called forth by the stimulus of a prize, and are ushered into the sphere of professional literature, stamped with the highest meed of approbation which the responsible agents of our colleges can bestow: bearing away the palm after what, we are bound to presume, has been a successful competition in an honourable contest. Yet, though no doubt immense advantages are enjoyed by a medical author who has the good fortune to make so favourable a *début*, though he comes before his brethren already judged, and his merits recognised, the duties of the critic demand that he should conduct his literary analysis with not less than ordinary care, and bring as keen and impartial powers of judgment to the performance of his task, as if no high authority had already passed sentence on the merits of the work he is about to examine. Perhaps on reflection it will even be conceded by many, that in weighing the merits of a work such as that before us, a more extensive and important field is thrown open, and that duties of a higher order devolve on him who has undertaken to wield the pen of criticism, which is so fully capable of effecting good, yet often is not wholly devoid of evil.

That the interests of our science may be advanced by the establishment of prizes as a stimulus to individual energy, we are fully of opinion; that by the same means a right direction may be given to the stream of intellectual labour, and that correct paths may be traced out for the successful pursuit of original investigation, with sufficient inducements to attract talent and genius, often as unsteady as brilliant, we also admit. Indeed it has often been a source of painful regret to us, that the munificent example offered by many of our brethren in England, and on the Continent, who have in so many departments established prizes with liberal endowments, has found so few followers amongst the members of the Irish School. But that the great aim of promoting the acquirement of scientific knowledge may be reached, it is not enough that prizes should be established, and intellectual contests engaged in, without a due regard being had to the selection of subjects, the actual condition of the special part of medical science to be cultivated, and the direction which should be given to investigation. In the words of Sir J. Herschell, very appositely quoted by our author in his preface, it will be necessary to "arouse the attention of observers, and at the same time give it that right direction, by pointing out *what ought to be observed*, without which all observation is lost labour."

On many occasions hitherto we have consulted with pleasure and profit the pages of a Jacksonian Prize Essayist, and in the present instance too we can say in all truth that we have gleaned instruction from the perusal of Mr. Birkett's work. If its author cannot lay claim to much originality, all must accord to him a pretty full acquaintance with the literature of his subject, a faculty of extensive research, and in general a clearness and accuracy of style. Few will be found to deny that in selecting the maladies of the breast as the subject for an essay, the Council of the College of Surgeons of England proposed a task far from easy of execution; and that it rarely falls to the lot of one who has not reached a considerable degree of seniority in his profession to have had opportunities of studying for himself or making original observations on all the forms of lesion to which this organ is liable. Perhaps on this very reflection may be based the strongest argument against holding out inducements for the compilation of *complete treatises* instead of *special monographs*; for however possible it may be with an adequate share of industry and diligence to pursue original investigation after a determinate plan, or to fill up outlines sketched by another hand, it is hardly to be anticipated that books written to order will have other than an ephemeral value,

or contribute largely to the store of medical knowledge. To be sure it may be urged that a signal benefit is conferred by having brought into a condensed and collected form the several authorities and references on a particular subject, a task which, though useful, scarcely becomes the ambition of the scientific surgeon or physician. We by no means wish it to be understood, however, that we consider the work of Mr. Birkett has had such a limited scope.

Our author commences with a description of *the configuration and the anatomy of the human mammary glands*, but it is to be regretted that he has not thought proper to enter more into detail in the seven pages which he has devoted to this subject. There are few points so much neglected by the anatomical student, in practising dissections, as the mammary gland; few, indeed, that he has so seldom an opportunity of examining in a full condition of development; and we fear that the hasty and imperfect outline of its anatomy given by our author will hardly have the effect of disseminating very clear or definite views of its structure.

Deducing from his anatomical observations that there are *three* periods in which the mammary glands present very different conditions, the following arrangement of the diseases of the breast is proposed by Mr. Birkett:—1. The diseases *before* puberty; 2. The diseases *during* the establishment of puberty; 3. The diseases *after* the establishment of puberty; *a.* during pregnancy, the puerperal period, and lactation; *b.* at any period or age after puberty.

Considering as we do, and as we think that we have elsewhere (*a*) proved, that the present condition of medicine does not allow of our framing classifications either generally or pathologically true, and believing that any one system of arranging diseases for the convenience of recording analogous facts, and registering observations, has but little value over another, we should not be at all disposed to canvass the merits of the one just proposed, but that we object on principle to the unnecessary cumbering of our literature with separate categories of disease, whose value is generally appreciated by their authors only. If the simple subdivision into malignant and non-malignant were adhered to, we believe it would not only answer all practical purposes exceedingly well, but the reader would be saved the trouble of finding the relative position of diseases on scales more widely different than those of Reaumur and Fahrenheit. To that of Mr. Birkett, however, we cannot hesitate to allow the great merit of simplicity.

(*a*) New Series, vol. ix. p. 168, February, 1850.

Under the head of abnormal conditions of the organs before puberty, will be found some brief remarks on affections of the mammary gland shortly after birth, accompanied by details of cases which are quoted at tedious length from various periodicals, a fault which, we may here observe, strongly characterizes the entire work, as the number of original cases, the result of the author's own observations, bears but an extremely small proportion to those cited from other sources. The great treatise of Sir A. Cooper has, no doubt, been consulted by him on many occasions, but we do not find that he has followed the maxims of that philosophical writer, who, in the preface to his great work on the breast, makes the following judicious observations, which we do not hesitate to bring forward, inasmuch as we have great reason to think that they are equally applicable to medical authors of the present day, and may be urged as forcibly now as when they were first penned.

"In performing this task," says Sir Astley, speaking of his work on the breast, "I have restricted myself to describing from my own preparations only; and if every author in our profession would adopt this plan, and merely write on what he is capable of demonstrating, preserving, and exhibiting to others, the medical world would not be overwhelmed with those crude opinions, theories, and conjectures, which, according to the present system of quoting all that has been written, are sure to compose the greater part of the works that issue from the press." The gift of originality has not been bestowed indiscriminately on all, yet we believe there are few who, by the exercise of moderate abilities, the enjoyment of even a limited sphere of observation, and a patient spirit of research, cannot add important facts to the records of medicine.

Under the heads "*Amazia*," and "*Pleiomazia*," the most remarkable recorded cases of deficiency and excess in the number of the breasts are cited. The well-known case of quadruple *mammæ* by Dr. Robert Lee, and that by Dr. Shannon of Dublin, are given in full(a).

In treating of the subject of inflammation of the breasts, we are again favoured with divisions and subdivisions, well-defined, no doubt, in theory, but hardly appreciable in practice. The author classes these affections as follows:—A. Inflammation and its results in the cutis and subcutaneous tissues, covering, 1, the nipple; 2, the areola; 3, the gland itself.—B. Inflammation, and its results in the tissues behind the gland.—C. Inflammation, and its results in the tissues within the investing

(a) The former taken from Sir A. Cooper, the latter from our Journal for February, 1848.

fibro-cellular envelope, or fascia of the gland. 1. Of the lobes or gland tissue; 2, of the uniting tissue.

The pathology and treatment of these several affections are next described in a similar order, with much detail, and copious illustration by cases, the selection of which must have required an indefatigable patience in research, some of them having been chronicled in the first years of the present century, and no small number being taken from foreign periodicals, while not more than four have actually occurred in the author's own practice.

Perhaps the best section in the entire work is that which immediately follows, and is devoted to the consideration of "diseases depending upon the development of cysts and intra-cystic growths." Under this head our author includes several forms of disease described by Sir Charles Bell as *carcinoma mammæ hydatides*; by Sir Astley Cooper, hydatid disease of the breast; and by Sir B. Brodie, sero-cystic disease: while the terms unilocular and multilocular cysts are employed by the French writers to designate the same affection. The following arrangement is proposed by Mr. Birkett:

I. Cysts depending upon dilatation and a morbid condition of the lactiferous ducts or acini.

II. Cysts produced by a peculiar action in the fibro-cellular envelope of the gland tissue, and in consequence of a morbid state of the function of nutrition.

The former he considers may be developed in the several situations here named:

1. Near the nipple, *sub-areolar*.
2. In the substance of the gland, *intra-glandular*.
3. On the posterior surface of the gland, *sub-glandular*. This last being, in the opinion of the author, the simplest form in which these cysts exist.

Mr. Birkett has developed his views of the formation of these structures at considerable length. In reference to the first class he observes:

"The size varies from an almost imperceptible point to that of a filbert, but, I believe, is rarely larger. The colour, which depends upon that of the contents, varies from yellow, pale red, or brown, until it becomes almost black, or of a dirty green tint. They possess an external investment of the fibro-cellular tissue, and the lining membrane consists of a very beautiful coherent epithelium. Each epithelial cell is oval, contains a nucleus, and is somewhat granular in texture. Thus this epithelium closely resembles that of the ducts.

"The contents of these cysts are of a mucous nature, of a pale,

yellow, reddish, or dull green tint. They exhibit a granular basis, fat globules, milk globules, and colostrum corpuscles, with epithelium. The colour probably depends upon the decomposition, or the presence of hæmatin.

“ Therefore I believe this fact is established,—that cysts may exist in the mammary gland having contents identical with those of the common milk ducts.

“ These small isolated cysts probably arise in consequence of obstruction in the caliber of the minute ducts, and to this cause must be attributed the formation of larger cysts of this class, which occur either in the substance of the gland or beneath the areola.”

A diagram is subjoined, by means of which the author's opinion as to the mode of production of the cysts is explained. A duct is represented in which an obstruction has taken place at a particular point; as secretion goes on in this tube its parietes become dilated, causing detached enlargements, or a varicose condition, and, with the progress of the disease, the portions of the duct between the enlargements contract. Finally, he considers that all trace of the duct is lost, and that small cysts are formed in the condensed cellular tissue.

He next passes to the description of a disease of the larger ducts occurring near the nipple, “ presenting a cystiform character.” The morbid action to which they are due he considers to take place as follows:

“ In the first place an excess of secretion takes place in the duct, which, from some cause or other—malformation of the nipple, or obstruction of the duct by pressure—does not flow away spontaneously, although perhaps it may be made to ooze out. The fluid becoming absorbed, the more solid material, the epithelium, remains behind, leaving a coherent mass of more or less solidity. This body may cause irritation, an excited action is induced, blastema is effused, and nucleated cells, which attain a degree of fibrillation, are formed: hence the appearance of organized growths found in the ducts.”

As the result of his observations the author draws up the following conclusions:

“ 1. That the lactiferous ducts are liable to dilatations resembling cysts; that this morbid condition simulates more important diseases: hence, this suspicion being excited, the excision of the tumour has been resorted to.

“ 2. There is no evidence to prove, from minute examination, that the growth within the ducts enjoys any characters in common with either the cysto-sarcomatous or carcinomatous new formations; and,

“ 3. That this morbid condition belongs to the class of the non-contaminating diseases.

" I am fully aware that, in making the above statements, I am directly at variance with the opinions expressed by Sir Benjamin Brodie, at page 148 of his Lectures illustrative of various Subjects in Pathology and Surgery. And, with all deference to his high talents and acute observation, I must observe that the facts above stated had reference to those preparations only which I have myself examined with great minuteness, but which correspond in outward appearance, so far as I have been able to compare them, with that preparation in the museum of St. George's Hospital upon which his observations are founded. A minute examination would determine the question.

" Another observation, before concluding my remarks upon this class of cystiform affections, relates to their co-existence with almost all the forms of the other diseases to which the breast is liable. Thus the small cysts first spoken of are very commonly found in a portion of the gland tissue removed with a tubercle of carcinoma fibrosum or medullare."

In the foregoing remarks the author appears to claim for himself the merit of originality; but though we have examined with care the pages of Sir B. Brodie's work devoted to the consideration of "sero-cystic tumours," we have been at a loss to find the points at issue. Mr. Birkett has, no doubt, given a very full and detailed account of the disease, classified varieties, and enlarged on morbid appearances and general pathology, but we must say that the general account given by Sir Benjamin Brodie resembles accurately enough that of our author, in proof whereof we cite the following passage from the "Lectures on Pathology and Surgery:"

" Having explained to you these facts in detail, with a view to impress the subject more completely on your minds, I shall endeavour to trace, in a few words, the pathological history which they seem to establish, and which not only as a matter of science, but in a practical point of view, it is important for you to understand. It appears then to be as follows:

" *First.* A greater or less number of membranous cysts are generated in the breast, containing serum. The latter is at first of a light yellow colour, and transparent, but afterwards becomes of a darker colour and opaque. There is reason to believe that these cysts are formed by a dilatation of portions of some of the lactiferous tubes.

" *Secondly.* Morbid growths or excrescences are generated from the inner surface of one or more of these cysts, projecting into their cavities. . . . They are covered by a thin delicate membrane, which is reflected over them from the inner surface of the cysts; but whether they are originally formed between two layers of the membrane of the cysts, or whether they are

at first mere deposits of fibrine or albumen on the inner surface of the cyst, a thin membrane being formed on their surface afterwards, remains to be determined by future observations.

* * * * *

“*Fourthly.* Under certain circumstances the cysts become completely filled up by the morbid growths, so that their cavities are obliterated, the tumour being thus converted into a solid mass, in which, however, the remains of the cysts are perceptible; and this is the prelude to a still further change, in which the greater part of the cysts have wholly disappeared, a solid mass of an indistinctly laminated texture occupying their place”(a).

Cysts containing Fluids as well as Solid Growths.—The intra-cystic tumours are in the opinion of our author always more or less in connexion with gland tissue, and are invested by a reflection of epithelium from the cyst wall. From the result of his microscopic observations, he considers them as being constituted chiefly of an imperfectly developed gland tissue, and arrives at the conclusion, “that this tissue presents no resemblance to that of the carcinomata, and that there exists no evidence to prove that it has the power of contaminating other tissues, or of being generated in any other organ of the body.” A statement, the latter part of which is, we consider, enunciated with too much boldness, as almost all such exclusive pathological views (and they were rather numerous a short time since) are, in our opinion, destined to be overturned at no distant period, when investigations of morbid products shall be conducted on a sufficiently extensive scale, and with the requisite degree of care and accuracy. The entire of this section, devoted to the “pathology of cysts,” “diseases depending upon cysts,” and the several subdivisions of the subject, may be consulted with interest and advantage. It will be found amply illustrated with cases, no pains in making research have been spared, and the only thing to be regretted is the paucity of original observations.

Passing over the sections devoted to “hypertrophy of the mamma,” and “lobular imperfect hypertrophy,” we come to the “painful tumour of the breast,” in reference to which the author observes:

“Of the painful affections of the mammary gland three distinct kinds must be recognised, since, in a practical point of view, an accurate diagnosis is a matter of great importance.

(a) *Lectures on Pathology and Surgery*, by Sir B. Brodie, p. 148.

" 1. *Mazodynia*, or a painful affection of the organ generally, to the consideration of which a separate chapter will be devoted.

" 2. Lobular chronic induration of the normal tissue.

" 3. Lobular imperfect hypertrophy; a new growth. Both these, 2 and 3, being attended with intense pain, either paroxysmal, continued, or in consequence of and after manipulation."

At page 164 will be found a brief but satisfactory account of "*mazodynia*," which is considered separately and under two classes.

1. *Without induration*, but with or without temporary enlargement.

2. *With* general, or partial *induration*, and often, but not always, temporary.

The *age*, *social condition*, *sensations*, and other circumstances to be observed in patients the subjects of this affection, are noticed with care and accuracy, and, as may be remarked of all the other sections of this work, with considerable attention to order. Yet though the *morbid anatomy* be excellent, the treatment faultless, it strikes us that something is wanted in these fluent descriptions, which we have no hesitation in saying is that power of drawing graphic and striking contrasts, only to be learned by close clinical observation, in other words, the facility of writing rules for diagnosis. Has this aught to do with the author's substitution of cited for original cases, the latter of which appear to have been so scanty with him?

Without noticing the sections devoted to "atrophy of the breasts," "*hydrops saccatus mammæ*"(a) (the latter condensed from Oppenheim's *Zeitschrift*), "diseases of the nipple and areola," &c., we pass at once to that on the "diseases depending upon carcinomatous degeneration of the mammary glands." The great importance of this subject, and the able manner in which it has been repeatedly treated, with the new interest it has derived of late from the attention bestowed on *pathological histology*, led us to hope for a chapter displaying more than ordinary ability, erudition, and research, from the *systematic* pen of a prize essayist; we should even be disposed to receive with gratitude a tolerably complete resumé of the present state of medical knowledge on this engrossing topic, if the author's sphere of investigation had not thrown in his way much opportunity for original observation. But we regret to say that our anticipations have not been realized, and, with the exception

(a) The medical history of this affection appears to be confined to the cases cited by the author, given from Oppenheim's *Zeitschrift*, in Canstatt's *Jahresbericht*, 1846, bd. iv., s. 270.

of some few statistical results, we cannot point to much in this entire section which deserves to be considered as matter added to the stock of our knowledge.

The following are the modes in which the author considers carcinoma of the breast may be developed:

- " 1. Lobular carcinoma; attached to or involving only one lobe.
- " 2. Intra-glandular carcinoma, infiltrating the entire gland.
- " 3. Encysted carcinoma, generally *carcinoma medullare*.
- " 4. Carcinoma of the nipple.
- " 5. Carcinoma commencing in the skin, either of the nipple areola, or over the gland."

After a general description of the progress of a cancerous tumour, the question of "age" is considered. In reference to this point the author has constructed a table showing the results obtained by the comparison of 147 cases, ranging in age from eight to ninety-three years. This subject has been treated before by M. Lebert and Dr. Lever, with the latter of whom Mr. Birkett coincides. Of 147 cases which he analyzed by dividing a period of 100 years into decades, 51 are found in the fifth, or between the ages of 40 and 50, one occurring in the first and one in the last decade. The discrepancy between these results and those arrived at by M. Lebert is explained in the following manner:

" It appears by a table drawn up by M. Lebert, which I presume refers to cancer occurring in any part of the body, that in 91 cases the largest number of instances were observed between the ages of fifty and sixty, namely, 29; and between forty and fifty, 20 cases.—*Abhandlungen, &c.* s. 336.

" From an analysis of 120 cases of cancer of the uterus, by Dr. Lever, it 'appears that the period of life most obnoxious to this disease is from the fortieth to the fiftieth year.'—*Med. Chir. Trans.* xxii. 269."

The development of the disease, its duration and treatment, are considered in a very clear and lucid manner; there is nothing, however, to arrest the attention of one acquainted with the standard authorities on the subject; and we pass to the "Anatomy of Carcinoma," page 242. The author has, in a previous page, committed himself to the following very strong opinions on the "identity and identification of carcinoma":

" As regards the identification of carcinoma, or of a tumour formed of a tissue in every respect identical with that surrounding the form of ulceration termed 'cancer,' it does not appear to me that any doubt need exist upon the point.

" The minute anatomy of carcinoma is so distinct and peculiar,

so totally different in almost every respect from that of any other tissue in the body, and the elements of which this tissue is composed are so characteristic, that the identification of a growth of this nature no longer remains a matter of uncertainty or of doubt."

Our powers of diagnosis from the study of histological elements are, no doubt, much less acute than those of the author, and we do not hesitate to confess that we have, in no small number of cases, been perplexed when examining specimens whose *general* history admitted of doubt as to their malignancy, and we cannot by any means subscribe to the opinion that the identification of carcinomatous growths is a matter of such very great facility. Many on whose judgment we place reliance in such matters have shared with us similar doubts. If we turn to the author's own description it will be found that the characteristics he relied on are not so pathognomonic as to exclude the possibility of error:

"The appearances observed in carcinomatous growths in the mamma are so variable, depending upon so many accidental circumstances, that it really scarcely amounts to exaggeration to say that we rarely meet with two precisely alike.

"We now pass to the minute anatomy.

"The essential elements of carcinoma are nucleated globules and a fibre. In plate X. fig. 1, *a*, is represented a lobular carcinoma. In fig. 2, a portion of one of the septa is magnified, and the minute collections of nucleated bodies are seen between the elements of the uniting or areolar tissue. A very thin section of the tumour was made, and in figure 2 the minute deposits of nucleated globules were seen between the elements of the fibre tissue, and extending too between the lobes of the adipose tissue. This is the mode in which the disease extends to the cutis.

"This, then, I believe to be the minute structure of *carcinoma fibrosum*, namely:

"The development of nucleated bodies between the elements (that is, between the fibres) of the uniting or areolar tissue.

"Now, in proportion as the fibre tissue predominates or is deficient, so is the new growth firm or soft.

"In tumours of this class two kinds are met with: one in which the minute bodies, 'nuclei,' predominate; the other in which the 'nucleated globules or cells' seem to constitute the chief material between the fibres.

"The *carcinoma fibrosum* presents a large quantity of fibre tissue, with a preponderance of nucleated globules.

"The *carcinoma medullare* presents a very small quantity of fibre tissue, with a preponderance of the nuclei."

Under the head of "Causes of Death of Individuals labouring under Carcinoma Mammæ," will be found an analysis of

thirty-seven *post mortem* examinations, by which the several organs and parts of the body attacked in different cases are shown. A question of extreme interest is involved in this inquiry, viz., as to *whether a given organ being cancerous, it be a matter of indifference what part will next be the seat of a similar deposit*. Some confused notion appears to be afloat on this subject, and observations are not wanted to prove that, in many cases, cancerous deposit has followed a *certain track* through the system. We have, however, very lately examined a case where a very *excentric deposit* of malignant disease took place. The glands of the groin being primarily affected, the disease next appeared in the form of an enormous tumour growing from the mesentery, the lumbar glands being untouched; and, lastly, the right ventricle of the heart presented also a small cancerous growth.

We regret much that a sense of duty has compelled us to withhold any large share of approbation from the labours of an author whom others have pronounced unequalled in a prize competition; and we take leave of Mr. Birkett's work, with a sincere hope that the splendid field of observation at his command will ere long be more sedulously and successfully cultivated, to his own greater honour, and the advantage of his profession.

Surgical Anatomy. By JOSEPH MACLISE, Surgeon. Fasciculus V. and VII. Folio. London: John Churchill. 1850.

THE application of art to the illustration of subjects connected with medical science has hitherto been attended with such expense, whenever faithfulness of delineation or beauty of execution were required, as to deprive the majority of students of any assistance to be derived, in the study of general or surgical anatomy, from the examination of good drawings; and it was only to a favoured few that the great works of Lizars, Quain, &c., were at all available. It was, then, with no small degree of pleasure that we witnessed the issue of Mr. MacLise's *Surgical Anatomy*, which so highly deserves the notice of professional men, whether students or practitioners, from the artistic skill displayed in the drawings, their accuracy of detail, and the very low price at which they have been published. To the enterprise of Mr. Churchill we are already indebted for the beautifully illustrated works of Mr. Dalrymple and Mr. Wilson, both of which we have on previous occasions noticed favourably; and in the present instance the same laudable

spirit presents us with an anatomical work of superior merit, at a cost which will allow of its introduction into general use amongst students, thus affording them invaluable aid in the prosecution of their dissections.

Fasciculus V. of the *Surgical Anatomy*, devoted to the subject of "Hernia," contains four lithographic plates, giving, in all, eleven different views of well-chosen dissections of the inguino-femoral region, accompanied by a commentary and general description, agreeing in most particulars with that of the most distinguished writers on this important subject. The first two plates present us with dissections of the inguinal and femoral regions in their normal condition, exhibiting the several layers of parts with great distinctness and correctness of anatomical detail. To any one acquainted with the practical difficulties of demonstrating on the subject in any particular instance the anatomy of this important region, and to those who wish to derive their knowledge of it from actual dissection, and not from the fluent descriptions of text-books, we can confidently recommend a careful study of these beautiful drawings, which we think eminently calculated to convey to the dissector a combined view of all that he is obliged to learn by separate detail and the most skilful use of the scalpel. We would not wish to be understood, however, as advocating the abandonment of the knife, for we feel thoroughly convinced that he has no claims to be called an anatomist whose ideas are obtained solely from text-books or plates, however accurate, without the constant practice of careful dissection, and the repeated manipulation of all important parts.

Much attention has been bestowed by Mr. Maclise on the anatomy of the inguinal and femoral rings, and the relative position which the vessels hold to them; several views, as well on the peritoneal as on the superficial aspect, being presented, while the connexions of the fasciæ and their general disposition are also well exhibited. Figures 1 and 2 show with remarkable distinctness the arrangement of the vessels and nerves under Poupart's ligament, and the formation of the sheath of the femoral artery, as also the several crural septa. The third and fourth plates present us with dissections of several varieties of hernia, and are well worthy the attention of the surgeon.

Opportunities of dissecting the parts engaged in hernia are so rarely offered to those pursuing anatomical studies, that many must be content to gain their knowledge of this disease from written descriptions and the assistance of plates; hence the additional value of well-executed and easily available drawings, such as those furnished us by Mr. Maclise, which

convey a vivid and intelligible idea of that which indeed can be only imperfectly understood from the most elaborate descriptions. It is much to be regretted that all other departments of surgical and general pathology have not been illustrated in a manner equally excellent and equally available; for, unhappily, the advantages to be derived from the study of such great standard works as those of Cruveilhier and Carswell are limited to a very few, in consequence of the expensive manner in which they have been issued. It would, indeed, be a fortunate thing for pathological science if it could enlist the pencil and artistic skill of Mr. Maclise. We would even venture to suggest the subject to him as one in every way worthy to engage his talents.

The third plate presents us with views of the oblique or external, and the direct or internal inguinal herniæ. The distribution of the principal vessels in connexion with them is well shown; while in the fourth plate, and the commentary to it, attention is drawn to the principal elements of diagnosis between these two forms of the disease; the taxis, the seat of stricture, and the operation being also briefly considered.

Turning to Fasciculus VI. we find the first plate occupied with "Demonstrations of the Nature of Congenital and Infantile Inguinal Hernia, and of Hydrocele," presenting us with nine views of the anatomy of the parts severally engaged in these affections. We venture to say that a single glance at the Figures 7, 8, and 9 will convey to the student more clear and defined notions of the respective anatomical peculiarities of congenital, infantile, and oblique inguinal hernia, than can be gained from the most elaborate written or verbal descriptions. Plate 22, the second of this fasciculus, exhibits in fifteen different figures the anatomy of the parts concerned in inguinal hernia, both internal and external, with all the possible varieties of both; while in Plates 23 and 24 will be found admirable delineations of femoral hernia, the commentary on which is written in a clear and lucid style, including a full description of the seat of stricture, the diagnosis, the taxis, and the operation. Altogether this work shows internal evidence of the high anatomical and surgical attainments, as well as artistic skill of the author, whose labours in the application of the art of design to the purposes of scientific illustration have added new lustre to a name which his brother has already made immortal in the annals of Irish art. It is with much pleasure, therefore, that we recommend to our readers the Surgical Anatomy of Mr. Maclise, which we consider a most valuable addition to the list of standard anatomical works.

Treatise on Diseases of the Larynx and Trachea, embracing the different Forms of Laryngitis, Hay Fever, and Laryngismus Stridulus. By JOHN HASTINGS, M. D., Physician to the Dispensary for Consumption and Diseases of the Chest. London: Longman. 1850. 8vo. pp. 160.

A Practical Synopsis of Diseases of the Chest and Air Passages, with a Review of the several Climates recommended in these Affections. By JAMES BRIGHT, M. D. London: Churchill. 1850. 12mo. pp. 271.

The Diagnosis, Pathology, and Treatment of Diseases of the Chest. By W. W. GERHARD, M. D., Lecturer on Clinical Medicine to the University of Pennsylvania, one of the Physicians to the Pennsylvania Hospital, &c. Third edition, Philadelphia: Barrington and Haswell. 1850. 8vo. pp. 351.

MONOGRAPHS abound more on diseases of the respiratory organs than on those of any other portion of the body; perfection and simplicity in their diagnosis daily becoming more facile, render them an interesting study in a science still admittedly too profound in its entirety for human genius; moreover, since the discovery of auscultation, their investigation has been attended with the happiest results as regards treatment. These facts, when taken in connexion with their number, their great prevalence, and their importance to life, sufficiently account for the numerous treatises on this class of affections in which the medical literature of the present century is so rich. Nor are we at all disposed to find fault with this, or with the almost daily additions to the number which our list of new books records; no disease can be too much or too minutely investigated; yet we often feel disposed to complain when we find authors rushing into print, and founding a book on some little novelty they fancy that they have discovered, or, worse still, reiterating facts not only previously described but already well known.

Of late years especial attention has been bestowed on the treatment of those diseases which affect the larynx and the trachea in the adult, and which give rise to hoarseness or total loss of voice. Of the many physicians who have written on these affections, Dr. Horace Green of New York, whose work we reviewed in the fourth volume of our present series(*a*),

(*a*) [In the Number of the Edinburgh Monthly Journal for July last a paper was published by Dr. John Scott, on the topical treatment of diseases of the larynx, in which he states, at page 16, that when his paper was written, "the

must, we think, take the foremost rank ; for although he cannot lay claim to having originated the practice, yet he revived its use, and brought it so forcibly under the notice of the profession, sustaining his views by facts derived from his individual experience, that to him must fairly be ascribed the merit of placing at our command a most valuable therapeutic agent.

It is chiefly with the view of illustrating the effects of the direct application of a solution of nitrate of silver to the lining membrane of the larynx and trachea, in the treatment of the diseases to which they are liable, that Dr. Hastings has published the volume now before us ; and his experience is decidedly corroborative of the statements put forth by Dr. Green. His observations illustrate the curative effects of this plan of treatment in acute laryngitis, chronic laryngitis, chronic laryngitis accompanied by hemorrhage, chronic laryngitis occasioning asthma, follicular laryngitis, tubercular laryngitis, hay fever, syphilitic laryngitis, laryngismus stridulus, and phthisis. He generally uses a solution containing half a drachm of the salt to the ounce of water, and he applies it with a piece of sponge attached to a whalebone rod, in the manner recommended by Dr. Green.

Dr. Hastings employs also a solution of the bichloruret of mercury, which he prefers to the nitrate of silver in syphilitic affections of the larynx and in laryngismus stridulus ; using a saturated solution in the latter disease, and one containing half a drachm to the ounce of water in the former. We must confess, however, that, notwithstanding Dr. Hastings' commendations of this application, we would not venture to use so active a poison in this manner, more especially in children, for in their struggles a quantity sufficient to occasion death might readily get into the stomach.

In our original communication department in this Number Dr. Watson of Glasgow has published the results of his experience of the topical treatment of laryngeal disease, and has directed especial attention to the benefits derived from it in phthisis. Dr. Hastings gives an equally favourable account, concluding that it is "productive of much good in tubercular laryngitis, and a valuable adjunct in the treatment of phthisis."

The author has prefixed to his observations on their treatment a concise view of the symptoms, causes, and diagnosis of

only notice of the practice was contained in the last volume of Dr. Forbes' Review." Authors should not make such sweeping assertions without being quite certain of their correctness, for, with very little research, Dr. Scott might have ascertained that we had reviewed the practice at length in the year 1847.—ED.]

the diseases above enumerated, and has thus produced an interesting and practical little volume.

In the small work published by Dr. James Bright, the author proposes to submit to his professional brethren the results of his experience, acquired "from several years' careful study in investigating the diseases of the chest, and the best means for their alleviation and cure." Where he has gained his experience, or in what hospitals he has carried on his investigations, he does not state, for in the title-page he simply styles himself "James Bright, M. D." We remark this as, after perusing his book, we felt anxious to learn his pretensions for giving to the world so meagre a compilation as the volume before us.

It is divided into three parts; the first of which contains an account of the anatomy of the chest, the physiology of respiration, and the methods of exploring the physical conditions of the chest; the second is devoted to a consideration of the affections of the air passages and the diseases of the lungs; and in the third, the several climates usually resorted to and recommended in diseases of the lungs and air passages are described.

We were, probably, wrong when we said that Dr. Bright's book is a *compilation*, for, whether we consider the matter or the manner, the "succinct account," as he terms it, of the anatomy of the respiratory organs is one of the most *original* pieces of composition that we remember to have read in English medical literature. So original do we think it that we cannot resist the temptation of extracting a few passages for the benefit of our readers, begging them to remember that this anatomical portion has been prefixed to the book, "in order to enhance its utility in a *practical* point of view:"

"The chest is separated from the head by the neck, and from the abdomen by the diaphragm. It is composed of thirty-seven bones, namely, twelve dorsal vertebræ, twenty-four ribs, and the breast-bone or sternum.

"The posterior wall of the chest, concave from above downwards, is formed by the bodies of the twelve dorsal vertebræ and the posterior ends of the ribs. The latter curve a little backwards and then outwards from the spine, so that the bodies of the vertebræ are inclined forwards into the thoracic cavity.

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"The organs of respiration are the lungs, two in number, placed in the cavity of the thorax. They consist essentially of membranes, canals, and vesicles filled with air, which are surrounded with a dense network derived from the pulmonary vessels; and also of a tubular apparatus for the ingress and egress of air, commencing

with the trachea. Air is likewise conveyed through the pharynx and larynx, hence these may all be considered as accessory organs of respiration. In the same category must be included the pleuræ, or investing membranes of the lungs; and the thorax, for by its dilatation [*sic*] inspiration, and by its contraction expiration is mainly effected.

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“The heart is an irregular conical-shaped hollow muscle, inclosed in a serous pouch, called pericardium, situate in the front part of the left side of the chest, partly pendent, partly resting on the diaphragm. It is composed of two symmetrical halves (two hearts, as it were, in juxta-position), of which the right receives the venous blood from the system and propels it to the lungs; the left, on the other hand, receives the arterial blood from the lungs, and, through the aorta, distributes it over the whole body. Each of these halves is divided by a partition into two cavities, namely, an auricle and a ventricle, which are connected by an opening, but not in direct communication with the cavities of the other half. The heart, which thus comprises four cavities, is invested externally by a serous membrane, a continuation of the pericardium, internally by the general arterial lining membrane.

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“The four cavities contained in the heart are, in all probability, during life, of one uniform size; otherwise an unequal amount of blood would be transmitted through them, and necessarily disturb the regularity of the circulation. In the dead body the right half of the heart seems more roomy than the left.

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“The pericardium is a membranous fibro-serous shut sac, in which the heart is inserted, like the head in a night-cap.”

Such is a specimen of the style in which Dr. Bright conveys information in what purports to be a practical monograph on, probably, the most important range of diseases which the physician has to study.

Let us, however, turn to the second part of the work, in which the diseases themselves are treated of, and see if there are any redeeming qualities there which might in some degree account for his appearance as an author. It includes an account of acute and chronic catarrh, acute and chronic bronchitis, bronchial polypi, acute and chronic laryngitis, tracheitis, laryngismus stridulus, pertussis, pneumonia, gangrene of the lungs, pleuritis, pneumo-thorax, pulmonary œdema, hæmoptysis, emphysema, melanosis of the lungs, influenza, hay asthma, and phthisis pulmonalis! The whole of these are *disposed of*—the most appropriate term we can find—in 128 12mo. pages, of which we can at least say that they are *easily* read, inasmuch

as the type is large, the lines wide asunder, and each page has a goodly margin. So struck were we with the volume as a specimen of book-making that we took the trouble of analyzing it typographically, and we find that one page of the part of our Journal which the reader is now perusing, contains as many words as three pages of Dr. Bright's volume. Thus it may at all events be regarded as a *reading-made-easy* of the diseases of the respiratory organs, the entire subject being condensed into about forty moderately filled pages of an octavo volume! If, however, his *words* are few, his *practice* is heroic; of this his method of treating influenza is a good example:

"The treatment of influenza may be very briefly stated: on the first invasion, the patient should be confined to his bed or chamber, and have a dose of calomel, with colocynth, and James' powder, followed by a cathartic draught; a mixture of the acetate of ammonia, containing nitre, squill, and antimony, should be taken every four or six hours; a large mustard poultice placed over the chest will relieve the oppressed breathing, and promote secretion from the mucous membrane. Sometimes this treatment may be preceded by an emetic, which is useful in several ways: it empties the stomach, emulges the biliary vessels, relieves the chest, and determines to the skin. The surface of the body should be kept warm, and diaphoresis encouraged by partaking frequently and plentifully of diluent drinks. Blood-letting should be most carefully shunned, on account of the great debility and prostration always present. There may be necessity for capillary bleeding, however, if the disease be complicated with inflammatory and local congestion; the diet should be spare, light broths and farinaceous puddings, but afterwards a more liberal aliment may be allowed."

But we will not weary our readers' patience with any further notice of Dr. Bright's book, which we would have passed by in the silence it merits, were we not apprehensive that the name of the author, from being similar to that of one of the first physicians of our age, might induce some of our readers to obtain it.

Dr. Gerhard's volume has for some years been a favourite text-book with our American brethren, as is sufficiently evidenced by the fact of its having reached a third edition. It contains a good practical resumé of the diseases of the respiratory organs and of the heart, although more adapted, from its elementary character, for the student than for the practitioner. It is so rarely, however, that we meet with an original work on medicine from the other side of the Atlantic, that we feel much gratification in calling the attention of our readers to

one which may be fairly classed with those of the most celebrated European physicians.

This want of originality in the medical literature of the United States cannot be ascribed to any deficiency in the literary talent of the medical profession there; for in it there have been and are many whose names are well known for their skill, their energy, and their talents; but on whatever cause it depends, the evil has grown to such a magnitude,—we refer more especially to the reprinting of the works of British physicians and surgeons,—that it has at length awakened their own attention to the injurious influence it is producing on their national character. In the first volume of the Transactions of the American Medical Association, this feature in their publications is thus commented on in the Report of the Committee on Medical Literature: “The fairest fruits of British genius and research are shaken into the lap of the American student; and the great danger seems to be, that, in place of the genuine culture of our own fields, the creative energy of the country shall manifest itself in generating a race of *curculios* to revel in voracious indolence upon the products of a foreign soil.” We rejoice that the matter has at length attracted such notice, and as the result, we expect that, ere long, original publications, and not reprints, will form the bulk of American medical literature.

PART III.

REPORTS, RETROSPECTS, AND SCIENTIFIC INTELLIGENCE.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

TENTH SESSION.—1849-50.

Acute Inflammation of the Spinal Cord.—Dr. M'Dowel brought forward the following case of acute inflammation, with softening of the spinal cord: Matthew Tracy, aged 35, an in-door servant, was admitted into the Whitworth Hospital on Friday, the 9th of December, 1849. It appeared that two days before his admission he found himself unable to discharge the contents of his bladder, nor could he assign any cause for this unusual circumstance. After several hours, the assistance of Dr. Adams, of Kingstown, was procured, who passed a catheter, and drew off a considerable quantity of urine. The patient stated that about ten days before the occurrence of retention of urine he had experienced shiverings and pains in the back and loins, and through his limbs generally; these febrile symptoms, which were attended with a sense of lassitude, and with disturbed sleep and frightful dreams, did not, however, prevent him from following his usual daily occupations. On the following day (Saturday) the bladder was still in a state of paralysis, and, by the advice of his medical attendant, he was conveyed in a car to the Whitworth Hospital. Whilst on the way he vomited, and had a discharge from his bowels, of which he was unconscious, but he was able to walk to his ward with some slight assistance. A catheter was passed by the pupil in attendance, and the bladder emptied. On the day after his admission, when first seen by Dr. M'Dowel, his condition was as follows:—The bladder was greatly distended, but this, which is so generally a source of great distress, did not appear to cause the patient much annoyance, nor did the introduction of a catheter seem to give him any pain. It was next ascertained that during the short time that had elapsed since his admission, complete paralysis of motion of the lower extremities had

occurred; their sensibility, likewise, was impaired, and to this extent, that when one of his legs was touched he was conscious of it, but was unable to tell on which limb the hand was placed. The lower extremities lay powerless and extended, their muscles were very flaccid, and, to the patient's own sensations, the limbs felt as if they were "asleep." The pulse was 90, and the face had a peculiar collapsed and shrunken appearance, which never left it subsequently. On the following day (Tuesday) the upper extremities had likewise become paralysed, the patient retaining, however, some slight power over the right hand. On the next day (Wednesday), the paralysis of the upper and lower extremities, both as regarded sensibility and voluntary motion, might be deemed complete; there was diminished sensibility of the cutaneous surface as high as the clavicles. Some amount of dyspnoea was observed on this day; the respiration was of a sighing character, and principally carried on by the agency of the diaphragm, assisted by the sterno-mastoid and scaleni muscles. Inspiration was laboured, and the chest no longer seemed to expand. The voice also had become almost inaudible, and it was evident that the powers of life were rapidly failing. On the following day (Thursday) there was profuse sweating, and the dyspnoea was still more distressing than before. The respiration was 30 in the minute, and the pulse 96; the urine was ammoniacal, and deposited large quantities of ropy mucus. From this period up to the time of his death the patient's posture in bed was peculiar. By his own desire he was placed in a sitting position, propped up on all sides by pillows; when thus placed, he said he breathed most easily, and on one occasion, when he was induced to allow himself to be placed in the horizontal posture, dyspnoea of a most alarming kind came on, which for a moment seemed to threaten the patient's existence. The voice, at this period of his illness, was completely extinct. On this day, and the next following, there was slight raving, but, with this exception, the mental faculties were unimpaired throughout, his intelligence was perfect, and his memory clear. From the first the pupils were contracted.

It was observed that no involuntary starting of the muscles of the paralysed limbs ever occurred, nor could such be excited by artificial stimulation of the surface; and even the introduction of the catheter failed to produce any manifestation of muscular contractility in the muscles of the lower extremities.

No alteration occurred in the symptoms which have been detailed; the patient sank rapidly; on Friday night the urine flowed away from the bladder, instead of being retained, as had been the case up to this time; and finally death took place, unpreceded by any struggle or convulsion, on the afternoon of Saturday (15th), being the ninth day from that on which retention of urine first suddenly occurred.

Post Mortem Appearances.—*Brain.*—The brain was rather more vascular than usual, and the sinuses of the head were turgid; but in all other particulars the encephalon was healthy.

Spinal Cord.—There were no appearances of disease external to the dura mater; but on cutting into the “theca” (which was first done at its lower part), an *excessive quantity* of turbid serum, of a wheyish colour, and mixed with flakes of lymph, made its escape. The outer surface of the cord, invested by its pia mater, appeared, for the most part, healthy; but for about two inches of its extent, between the dorsal and lumbar regions, it was of a yellowish colour and flattened appearance, and had lost to the touch the firm feel which is essential to this organ as a part of its natural condition. The veins of the cord were also much distended and tortuous. On making a vertical section into the interior, the spinal cord, from the centre of its cervical portion to its termination below, was found to be softened, pulpy in its appearance, and changed to a soft, creamy consistence. Numerous spots of extravasated blood were scattered throughout the softened nervous mass, presenting an appearance similar to that which, when observed in the brain, is above all others indicative of inflammatory softening. The bladder presented all the appearances of acute inflammation.

Dr. M'Dowel then made the following remarks upon the foregoing case: It is unnecessary to occupy the time of the Society in proving how analogous are the symptoms of the case just detailed to those which are met with as the result of fractures of the spine in the cervical region, attended with an interruption of the continuity of the spinal cord. The symptoms that were present, and by which we were led to regard this case as one of spinal myelitis, may be thus grouped:—1st. Complete loss of the power of voluntary motion in the extremities, retention of urine, and paralysis of the sphincters of the rectum. 2nd. Loss of passive contractility (tonicity) in the voluntary muscles, and the abolition of their reflex or involuntary movements. This circumstance is interesting, inasmuch as it furnishes a proof of what is very generally recognised, viz., that the spinal cord is the seat or centre of these involuntary motions. 3rd. Loss of tactile sensibility, to an extent corresponding to that of the paralysis of motion. 4th. Dyspnoea, which was greatest in the horizontal position. 5th. Feebleness and extinction of voice, obviously depending on progressive diminution of the power of expiration. And 6th. The rapid occurrence of acute inflammation of the mucous membrane of the bladder, and which the state of the urine abundantly revealed.

Now, by connecting the symptoms in this case with its pathology, it is rendered evident that the disorganization of the spinal cord commenced below, and from thence rapidly extended upwards. Of this lesion, paralysis of the bladder and of the sphincters of the rectum, were the first positive signs. Paralysis of the lower extremities soon supervened. The nervous supply of the intercostal muscles was next interrupted, from which resulted dyspnoea; whilst nearly at the same time, the muscles of the upper extremities lost their power of voluntary motion, and the sensibility of the cutaneous surface generally was impaired, as high as the clavicles.

The disorganizing process did not extend higher than the centre of the cervical portion of the medulla spinalis, and life was for a little time prolonged by the respiratory functions of the phrenic nerves. It may be presumed that the rapid termination of the case was, to a certain extent, due to the great amount of effusion into the theca vertebralis, which, as it accumulated, compressed the upper portion of the cord and medulla oblongata, and thus cut off the last and only channel through which respiration could be maintained.

The posture voluntarily assumed by the patient was the most favourable for prolonging existence under the circumstances, as the fluid then left the upper portion of the canal by the influence of gravity; and I would venture to advance this peculiar symptom, viz., the comparative freedom from distressing dyspnœa in the erect position of the trunk and the great amount of dyspnœa so suddenly induced when the patient was placed horizontally, as a diagnostic sign of the existence of liquid effusion on the surface of the medulla spinalis.

In conclusion, Dr. M'Dowel directed attention to the similarity of symptoms in this case, and in one brought before the Society by his friend Dr. Hutton(a). In both cases, he said, retention of urine was the first marked symptom of the disease, and in both the appearances on dissection were very much alike; but it was impossible to assign any exciting cause for the disease in the former, such as obviously existed in the latter, where it is recorded that for three days, during which a storm lasted, the patient remained on the deck of a vessel at sea, subjected all the time to constant cold and wet.

Pneumonia following a severe Burn.—Dr. Adams communicated the particulars of a case of burn occurring in a child, named Thomas Cummins, of about ten years of age, who was admitted into the Richmond Hospital upon the 5th of January, 1850. Upon admission he was in a state of collapse, as was evidenced by shivering, coldness of the surface of the body where it was not burned, a small, contracted pulse, and, in addition to these symptoms, there was occasional vomiting. On removing the clothes it was seen that the throat, from ear to ear, the front of the neck, and entire anterior surface of the thorax, were severely burned; some parts of the skin were destroyed to the third degree, and some even to the fourth. The skin of both cavities of the axilla was also destroyed; and on the left side of the thorax the burned surface extended to the back of the scapula.

On Tuesday, the 8th of January (the third day after the injury), reaction set in. Inflammatory fever had supervened, and some sloughs began to separate. On the eighth day he became affected with a short cough and a slight amount of dyspnœa, but did not complain of this or of any pain in the chest.

On the 15th of January he was evidently worse. His face and

(a) Dublin Quarterly Journal of Medical Science, N. S., vol. iv. p. 233.

lips were now quite livid; respiration 50, pulse 140; the alæ nasi greatly dilated during the respiratory efforts, and all the muscles of respiration seemed actively engaged. Still he made no complaint of the dyspnoea. There was a slight short cough, but there was not any appearance of pneumonic expectoration. The burned surface also bore a healthy aspect. At length the boy sank and died, on the thirteenth day from the accident.

Autopsy.—Recent adhesions were found between the pleura costalis and pulmonalis, corresponding to that portion of the membrane which was situated immediately beneath the burn; and the lungs presented the usual anatomical characters of pneumonia in the parts which lay subjacent to the burned and ulcerated integuments. It was an example of true pneumonia, and not merely that hyperemic and congested state of the pulmonary tissues found in those who have been carried off in the early stages of a burn: a state of the lung attributed by Dupuytren to the repulsion from the surface and concentration of the blood to the internal parts of the body. The inferior and posterior surface of the right lung was in a state of splenization, that is to say, it resembled very much the normal appearance of the interior of the spleen; and the anterior lobe of the left lung was in the second stage of pneumonia, or that of hepatisation. There was also some congestion of the lining membrane of the trachea and bronchial tubes. The mucous membrane of the stomach was healthy, and no alteration seemed to have taken place in the appearance of this structure in the duodenum.

Remarks.—Heretofore the attention of the profession has been much directed to the treatment of burns, but the history of burns was very incomplete, until the eminent surgeon of the Hôtel-Dieu of Paris directed the energies of his mind to discover what were the anatomical characters of these severe injuries. Some of his observations satisfactorily accounted for the symptoms of gastro-enteric fever which frequently ensued on burns; and Mr. Curling, of London, has followed up well his investigations, and pointed out that the duodenum was very frequently the seat of ulcerations in cases of burns. Before this Society there have also been two cases of ulcerated duodenum brought forward by Doctor Hutton.

The case which I now present is only one of many examples of extensive burns in which I have found the stomach and duodenum untouched, while in the lungs had been found well-marked traces of pneumonia. This I think the more important to call attention to, because the pneumonia is, in some of these cases, during its first periods, latent.

The observation that latent pneumonia sometimes coincides with a bad burn of the surface of the body, is not put forward as anything new, for Dupuytren has pointed out the fact(a).

Aneurism of the Aorta.—Dr. Lyons laid before the Society the recent parts in a case of thoracic aneurism, which had been taken

(a) *Leçons Orales*, tom. i. p. 441.

from a female subject brought for dissection to the Original School of Medicine, Peter-street. He regretted that the very imperfect connexion which exists between the dissecting room and the hospital prevented him from detailing any of the symptoms which might have attended this case during life, as all his efforts to trace the particulars of the patient's death had been quite unsuccessful; however, he considered that morbid specimena, even though unattended with an account of their clinical characters, were often capable of throwing light on important questions of pathology, as, for instance, the association of diseases, &c.

The present case was an example of aneurism of the thoracic aorta, occupying at least six inches of the vessel, and presenting a combination of the fusiform dilatation, engaging all the coats of the artery, and giving origin at its inferior part to a small sacciform tumour, in which only the cellular coat appeared to be concerned.

The fusiform dilatation extended from the third dorsal vertebra or termination of the arch, to within a very short distance of the diaphragm, its greatest point of dilatation was about the centre, and both above and below it gradually diminished in size. This tumour lay principally on the left side of the bodies of the dorsal vertebræ, but also advanced a little on their anterior face; the root of the left lung was considerably pushed forwards, and the left pleural cavity much diminished in size, while the heart was thrown directly forwards, and appeared much more prominent than natural. The bodies of the vertebræ were perfectly healthy, and presented not the slightest trace of erosion either internally or on the surface. A small tumour about the size of a walnut projected towards the right side and into the posterior mediastinum, behind the heart, from the most inferior part of this fusiform dilatation; it was contracted a little at the point of junction; and the hollow thus formed between the two lodged the œsophagus, which was a little flattened out laterally, but had not contracted any adhesions to the sac, and indeed was apparently little inconvenienced by the pressure which it must have sustained between this tumour and the heart. This smaller or secondary tumour lay in front of the vertebral column, which it had not in the slightest degree eroded, but had pushed before it, towards the right side, the trunk of the vena azygos, without causing the enlargement of this vein, or diminishing the caliber of any of its tributary branches. This, the smaller tumour, presented a hard resisting feel, very different from the sensation conveyed to the finger by the fusiform tumour, which was soft and yielding in most parts.

An incision having been made, so as to lay open the cavity of both, the large dilatation was found filled with a *coagulum of blood*, lodging in its centre a cylinder of the paint used for injecting the body. The contents of the smaller tumour were very different, consisting entirely of *laminated fibrine*, which nearly filled its cavity, and was very hard and resisting. The internal surface of both tumours was thickly studded with atheromatous deposit, and in many places with prominent and very sharp calcareous spiculæ, which were particularly

abundant at the mouth of the lesser sac. The entire lining membrane of the aorta, traced to its origin, was thickly covered with atheromatous deposits, and the valves (though competent to close the aortic orifice) were much diseased. Both lungs, and the greater part of the bronchial glands, presented a very large deposit of tuberculous matter, and many of the glands contained calcareous concretions. This case, then, adds another to the many proofs hitherto adduced in the records of the Pathological Society, of the compatibility of phthisis and aneurism, on which question it appears that doubts had been formerly entertained by the Dublin School, as Sir. P. Crampton and others have repeatedly made allusion to this combination at former meetings of the Society, as presenting something worthy of remark; and it would appear that an opinion yet prevails with some of the continental pathologists (Rokitansky), as to the impossibility of the two diseases being associated. With regard to the aneurismal tumour, it is very unfortunate that we possess no records of observations made during life, as, arguing from the anatomical relations of parts, the diagnosis would appear to be beset with insurmountable difficulties. The relative position of the heart and aneurismal tumour bears some resemblance to the case detailed by Hope at page 447 of his work on Diseases of the Heart, but here the similarity ceases.

The phenomena derived from eccentric pressure could hardly be available, in consequence of the condition of the lungs, though the left bronchus must have been subjected to a pressure from behind forwards. The position of the œsophagus as it lay behind the heart, lodged in a superficial groove between the greater and lesser sac, might probably have given indications from the presence of dysphagia. The absence of venous dilatation or obliteration, though the azygos was carried so much to the right side round the convex margin of the lesser tumour, was certainly remarkable. A consideration of the manner in which the heart was thrown forward renders it highly probable that some phenomena, such as those which existed in Hope's case, were present, such as jogging impulse, &c.

With regard to the second class of diagnostic symptoms, or those resulting from *interference with sonoriety*, the condition of the lungs prevents the possibility of their having been appreciable, while the third great class of direct physical signs, as developed by the motor and auscultatory principles of the sac, could hardly have been evidenced in any way from the great depth at which the tumour was situated in the thorax.

The grounds for arriving at a diagnosis then would appear in such a case to be extremely limited, and referable only to the results of pressure in obstructing the œsophagus, and throwing the heart prominently forward.

Psoas Abscess bursting into the Cavity of the Peritoneum.—Dr. Stokes exhibited a specimen of psoas abscess originating in inflammation of the muscle and its sheath, independent of spinal disease, and proving fatal by bursting into the peritoneal cavity. The

patient was a man about forty years of age, who was admitted into the Meath Hospital, January 8th, 1850, labouring under the symptoms of bronchitis; there were also present some of the phenomena of pulmonary emphysema. He was treated in the usual way; mild antimonials were given, and counter-irritation applied to the chest, under which plan his condition became so far improved that he was placed in the convalescent ward of the hospital, and the case proceeded favourably until January 17th, when, for the first time, he complained of pain in the left iliac region; his bowels became constipated, and he experienced an unpleasant feeling of heaviness. On the following morning the abdomen was somewhat enlarged, and, immediately above Poupart's ligament, there was a considerable degree of hardness and tumefaction detected, which gave the feeling of two ridges with a sulcus between them: there was no fluctuation. No further change took place for the next two days. Then, however, the patient was suddenly seized with agonizing pain in the same situation, extending from thence over the entire abdomen. This attack was followed quickly by nausea, retching, and extraordinary prostration of strength, and the abdomen became tympanitic; he soon afterwards fell into a tranquil sleep, and died at two o'clock on the following morning.

Autopsy.—On opening the cavity of the abdomen the viscera were found covered with lymph recently effused. Five or six ounces of purulent matter were discovered in the cavity of the pelvis. The peritoneum was remarkably vascular, and the bladder was contracted to one-third of its natural size. An irregular opening, about an inch in length, was seen in the sheath of the psoas muscle, corresponding in situation to the last lumbar vertebra; by means of this aperture, the interior of the sheath (which contained purulent matter) communicated with the peritoneal cavity. There was no disease of the vertebræ.

Small-pox with Purpura Hæmorrhagica.—Dr. Gordon exhibited the uterus and kidneys, and coloured drawings of the external appearances of the eruption, and of the recent condition of the kidneys, in the following case:

An unmarried female, twenty-three years of age, was admitted into the Hardwicke Hospital during the past week, affected with small-pox. She had been a servant, and appeared to have been well fed, and in tolerably comfortable circumstances. She had never been vaccinated.

She was now extremely pale and very weak; the surface of the body was covered with an extensive eruption of exceedingly minute papulæ, confluent and very flat on the surface; and in addition to these were observed several purpuric spots, chiefly over the extremities; some of these were very small and bright red, others much larger, and of a dark blue colour; her skin was cold, the pulse very small and rapid. It was the fourth day of her illness, the second day of the eruption; she made no complaint, except of weakness, and great pain in the loins.

The same evening she was suddenly seized with menorrhagia to a very great extent, and had also hematuria, with some vomiting and diarrhoea; this last, however, was not attended with any discharge of blood. The uterine hemorrhage was controlled, but the constitution seemed to have lost all power of rallying, although stimulants and restoratives were freely administered. She expired on the day after her admission, in a manner exactly like those who die of hemorrhage after parturition. The variolous eruption had undergone no change since the previous day.

Post Mortem Examination.—The variolous eruption was general; the papulae were very small, flat, and confluent, but very easily recognized, however, with the aid of a magnifying glass; numerous spots of purpura were observed over the body, but particularly over the lower extremities, of various sizes, from that of a pin's head to a section of a pea. On opening the thorax the lungs presented a pale, anemic appearance, and were somewhat emphysematous; a few purpuric spots existed beneath the serous membrane covering the heart. The gastro-intestinal mucous membrane presented, in some places, spots of congestion and vascularity; and on raising up the intestines from the true pelvis a small quantity (about two ounces) of dark coagulated blood was found. A careful examination was instituted to discover the source of this hemorrhage, and it was at first supposed that it was a case of hemorrhagic peritonitis, as described by Broussais, and similar to the more ordinary disease of hemorrhagic pleurisy; but in this case the redness observable on the peritoneum was confined to the parts contained within the true pelvis, and, moreover, appeared to arise from imbibition rather than from true vascularity, as it could be removed, in a great measure, by frequent washing, and the *vascularity* of the serous membrane, which would be sufficient to give rise to extravasation, did not exist; there was, moreover, complete absence of any exudation of lymph. It was, therefore, considered that the blood had escaped from the uterus and its appendages, through the open extremities of the Fallopian tubes, as, according to Andral, sometimes occurs in cases of purulent collections. This view was confirmed when, upon a careful examination of these parts by Dr. Montgomery, he found a quantity of coagulated blood within the cavity of the uterus, and also in the canal of the Fallopian tubes, the mucous membrane throughout being greatly congested; and, moreover, that extravasations of blood had taken place beneath the peritoneum at the extremity of the Fallopian tubes.

The kidneys were of a dark red colour, and, when divided, presented a very congested appearance, and blood exuded from many points when pressure was made; several spots of extravasated blood were found in the kidneys, in both the cortical and tubular portions, but particularly in the latter; and the pelvis and calyces of each kidney were distended with black, semi-coagulated blood, which was found also in the ureters. When this was carefully washed off, the mucous membrane was still indelibly dyed of a dark purple colour.

The bladder was empty; its mucous membrane of a very light pinkish colour. There was no variolous eruption found in any part of the mucous system, except the mouth.

Dr. Gordon said that renal hemorrhage has been long considered one of the gravest symptoms in small-pox, particularly if accompanied by petechiæ on the skin, or purpuræ. This fact is alluded to by Sydenham and others. Rayer has noticed this combination, and delineates the post mortem appearances which he found in such cases :—"Des ecchymoses dans la bassinet et des pétechies dans la substance corticale." His delineations of this affection(*a*) are remarkably similar to that executed by Mr. Conolly from the above case.

Rayer considers that these cases are not rare, and quotes one at length from Barth, called by him *hæmaturia variolosa*, and which was in many points exactly like that just recorded.

Dr. Gordon said he had brought forward the case principally to illustrate one of the various modes in which variola in the early stage proves fatal,—that disease being at present epidemic in this city to a very great extent; and also to point out the occurrence of hemorrhage from the mucous surface into the cavity of the peritoneum, an occurrence which has not been often observed.—*Feb. 9, 1850. Richmond Hospital Museum.*

Hydrocephalus; Scrofulous Tubercles in the Cerebellum.—Dr. Banks presented the recent specimen, and gave the following details of a case of tubercles in the cerebellum.

The patient, a boy about eight years of age, was admitted into the Whitworth Hospital on the 20th of January, 1850. The history of the case, as it was ascertained from the boy's father, was far from satisfactory. It appeared that, about sixteen months previously to admission, he received a severe injury of the head, by falling from a considerable height. The wound on the head did not heal for many months; but his general health continued good until about four or five months prior to his admission. He then became fretful and chilly; and was drowsy during the day, but restless at night. He was observed to grind his teeth occasionally during his sleep, and sometimes he would awake with a scream. At times his appetite was tolerably good, but at other times he had an utter disinclination for food. Matters thus went on until about one month before his admission into the hospital, when, for the first time, his vision became impaired. He could no longer see objects with the same distinctness as formerly, and he groped his way about the room like a person who was half blind. When taken into the house his condition was as follows. He was a most unhealthy, strumous-looking child, with a hare-lip on the right side of the median line, which had not been operated upon. His head was much larger than was usual in children of his age, and there were scattered over it some patches of porrigo

(*a*) *Vide* Atlas, pl. 33, figs. 6 and 7; and pl. 34, figs. 5 and 8.

favosa. The pupils were enormously dilated, and contracted but little on the approach of a strong light. He was not, however, perfectly blind, though as nearly so as possible. The measurements of the head were as follows: circumference, twenty inches; across the head, from ear to ear, eleven and a half inches; and from the occiput to the nasal protuberance of the frontal bone, twelve inches. The pulse was 76 and very weak, and on making him walk he moved about with a most unsteady gait. Up to the 20th of January, the date of his admission, he had no convulsions. On the morning of the 29th the pulse was 96; and in the course of that day, whilst being led across the ward by another patient, he suddenly fell down, and remained for two or three minutes in a state of insensibility. On being placed in bed he fell into a profound sleep, and on awaking his pulse had fallen to 70. On the 1st of February he awoke suddenly from sleep, screaming violently, and soon afterwards he became sick, and retched incessantly. The next day he complained of violent pain in the head on awaking from sleep, and was attacked with convulsions, the muscles of both sides of the body being equally affected: each fit lasted from five to seven minutes. On the fifth of February he was again seized with convulsions, and after each convulsion he fell into a state of coma. The eyes were closed, the nose, lips, and ears became blue, and the pulse fell as low as 40. Respiration was only eight in the minute, and the pupils contracted to the size of a pin's head. For some time before his death, however, the pupils gradually dilated, though in a very unequal manner, and just previously to his demise they had enlarged to the utmost extent.

Post Mortem Examination.—There was a circumstance worthy of notice observed after the patient's death, namely, that the pupils, which were dilated to the utmost possible extent shortly before his death, about four hours subsequently to that event had contracted to their ordinary size; a point of some interest in connexion with the question of the muscularity of the iris. On opening the head the arachnoid membrane was observed to be drier than natural, and the brain itself much larger than might be expected in a boy of nine years of age. Two ounces of fluid were found at the base of the organ; the ventricles were much enlarged, and contained about three ounces of clear serum. In the inferior and posterior part of the right lobe of the cerebrum a scrofulous tubercle of the size of a walnut was detected. It was of a somewhat circular shape, and of a yellow colour slightly tinged with green. There was a second tubercle, about as large as a pea, in the left lobe of the cerebellum, but differing from that in the right lobe, in presenting a laminated appearance. The deposit of tubercle was not confined to the brain, but had taken place in the lungs and mesenteric glands, and in one of the kidneys. The opposed surfaces of the pleuræ were adherent to each other, as were also those of the pericardium.

Scirrhus Tumour of the Stomach.—Dr. Lees drew attention to a specimen of disease of the stomach, taken from the body of a man who had lately died under his care in the Meath Hospital.

The patient was a sailor aged about forty-five years, and at the time of his admission was suffering from severe vomiting and obstinate constipation. He presented the appearance of extreme emaciation, and a slight degree of jaundice. He stated that he had enjoyed good health until about ten weeks previously, when, for the first time, he experienced a sensation of weight and uneasiness in the left side, which was soon afterwards followed by the usual symptoms of dyspepsia, heartburn, flatulence, and costiveness. About fourteen days before he entered the hospital, he excited vomiting by tickling the fauces, and from thenceforth he vomited almost everything he took into his stomach, up to the period of his admission. He suffered greatly from thirst, and the matter he vomited was so exceedingly acid as to set his teeth on edge, and had the appearance of "coffee grounds." The abdomen was not painful under pressure, but was contracted in the same manner as in painters' colic; and in making an examination, a tumour was felt above, and a little to the right of the umbilicus. This tumour was very hard to the touch, and gave a kind of tympanitic dulness on percussion with the fingers, but without communicating any pulsation. For three weeks before admission his bowels had not discharged anything of a feculent nature, but occasionally a frothy matter. The diagnosis of scirrhus of the pylorus was made from the discovery of the tumour above the umbilicus, taken in connexion with the general appearance of the patient, and the obstinate and peculiar character of the vomiting. The man speedily sank and died, every kind of palliative treatment having been employed without effect.

Post Mortem Examination.—About a pint of serous fluid was formed within the cavity of the abdomen. The tumour which was detected during life was discovered at the pyloric end of the stomach, and the superior transverse portion of the duodenum was contracted into a hard cartilaginous mass. The pyloric orifice of the stomach was apparently much narrowed, and on cutting into it a peculiar dense fibrous structure was observed, with slight abrasions of the mucous membrane in some places. The omentum was highly vascular, loaded with hard, granular fat; the surface was as if fine sand had been scattered through it. The peritoneal surface of the intestines was thickly covered with the same small granular bodies, and there was one spot in the liver, showing that the disease had extended to that organ also. The drawing he held in his hand exhibited the following microscopic appearances under a power of 300 linear diameters.

A section from the pylorus presented cells with nuclei, but no nucleoli, on adding acetic acid. There were also fusiform or caudate bodies, and granular bodies, probably naked nuclei.

A section from the liver showed cells with nuclei, but no nucleoli; and a section from the peritoneum showed oval cells containing one nucleus not altered by adding acetic acid.

These drawings did not represent the usual appearances of scirrhus, but Dr. Lyons had also examined the specimen, and would account for the apparent differences.

Dr. Lyons had submitted two portions of the diseased structure to microscopic examination, and though he entertained no doubt that they properly belonged to the class of true scirrhus formations, he found that the appearances presented differed somewhat from those usually laid down by systematic writers, or delineated in plates. The sections he had examined were taken, the one from the scirrhus mass existing in the pylorus, the other from the omentum. In each of these there was a complete absence of the fibrous stroma, which usually forms the basis of such growths, the interlacing fibres of which generally enclose oval or polygonal spaces, lodging cells in different stages of development, and presenting nuclei, and occasionally nucleoli. In this instance, however, the most carefully made section failed to exhibit any trace of stroma; and the entire mass appeared to be composed of cells, which, with very few exceptions, were destitute of any distinct nucleus, and corresponded pretty accurately with those designated by Bennett the compound granular cells. These cells were either agglomerated together in irregular masses, or scattered in an isolated manner; and it was amongst the latter that the very few which presented nuclei and imperfect nucleoli were found. All of them were surrounded by a finely granular matter, and appeared the only constituents of which the diseased masses seemed to be formed. The cells presented a flattened, disk-like appearance, and a general absence of nuclei and nucleoli; and, taken in combination with the absence of fibrous stroma, these characters were sufficiently remarkable, in a specimen of disease which presented so many of the external features of scirrhus. Repeated observations went to show how little dependence could be placed on the presence or absence of particular characters; at one time supposed to be quite competent to decide the question of malignancy, in cases of diseased products; and while it had been abundantly proved that the compound granular cell, at one time believed to be found only in inflammatory formations, could be looked for in cancer and other growths, it was no less certain that the "*cancer cell*" might be found in non-malignant formations, and therefore signally failed as a means of establishing a diagnosis from the consideration of *one element* of disease. In the case under observation, it appeared that the absence of fibrous stroma was not sufficient to warrant us in excluding the specimen from the class of scirrhus, with whose characteristics it presented a general agreement in external features, though, as was seen, the microscope pointed out important differences.

Senile Gangrene.—Dr. O'Ferrall offered some remarks upon a case of senile gangrene which was lately under his care in St. Vincent's Hospital.

The patient, a man between fifty and sixty years of age, was taken into the hospital, with one of his toes affected with gangrene. The disease, which was then confined to the inside of the fourth toe, had all the peculiar characteristics of senile gangrene, being black, and having a well-defined margin bounding the deadened parts: beyond these a dusky redness extended over the dorsum of the foot.

On the dorsum of the foot, the redness disappeared on pressure ; but in the vicinity of the affected toe, pressure had scarcely any effect in removing the colour. The pain in the part was very severe, and usually increased in the night. The suffering of the patient was strongly marked in his countenance, which had an anxious and pallid aspect. His whole frame was much emaciated, but he stated that he had not suffered any serious amount of illness until about three or four weeks before his admission. There could be no doubt of the nature of this case, and of course very little hope was entertained of the man's recovery. The state of the arteries in the leg was examined ; the external iliac and the femoral, from above downwards, as far as Scarpa's space, beat with the same strength as those of the opposite side, but beyond this locality no pulsation could be felt; no pulse could be detected in the situation of the tibial arteries. The treatment employed in the case was not very active. In consequence of the painful state of the foot, and the disappearance of the red blush on the surface, on pressure, it was thought expedient to apply a few leeches on the instep, although no hope was entertained of affording any permanent benefit thereby. The application of the leeches was, however, followed by considerable relief of the patient's sufferings, both the redness of the surface and the pain having diminished very much. After a few days more, the experiment was repeated, and was again attended with a diminution of the pain and redness. But little opium was administered, as it was remarked that the patient's mind was disposed to ramble, and that he talked a good deal in his sleep. At length the blackness appeared on another toe, and gained a little on the dorsum of the foot; from thence it gradually crept towards the instep, until it arrived about half-way up the foot. He now complained less of the foot, and very much of pain in the ham, which was increased by pressure: a few leeches applied here gave considerable relief. The shrinking of the foot was progressive with the extension of the blackness, until the toes and foot acquired that peculiar lateral contraction which is always noticed in such cases, so that when the affected foot was compared with that of the opposite side, it was fully one-third narrower. It was also remarked that the third toe began to ride over the rest in proportion as the transverse contraction of the foot took place, so that when the whole limb was involved, it rode completely over the other toes; but this circumstance is not peculiar to the present case. At length the patient gradually sank, and died in a state of coma.

Before death, the painful state of the ham was followed by a contracted condition of the limb, insomuch that the knee was drawn up on the pelvis, towards his chest, and could not be brought down to its natural situation without causing great pain to the patient. But, what was even more remarkable, the arm of the same side began to contract in like manner, until the hand became firmly pressed against the chest. In fact, the appearance of the two limbs resembled that condition called paralytic contraction, to which he had before drawn the attention of the Society.

Autopsy.—The brain was first carefully examined; it was remarkably firm under the finger; the superficial veins and sinuses were distended; and there was a considerable amount of sub-arachnoid effusion. The basilar artery was obliterated at one spot by a firm coagulum, and although a careful examination was made, nothing further was found to explain the contracted condition of the left limbs. The heart was small, and a clot, which sprang out of the right ventricle, between the *carneæ columnæ*, at which situation it was partly white and fibrinous, and partly of a dark colour, was found in the pulmonary artery. This fibrinous prolongation extended through the valves into the pulmonary artery, as far as the place where it bifurcated. The left ventricle contained a quantity of black blood, as was usual in cases of death by syncope. The aortic valves were not in the least degree impeded, or at least prevented from closing, by the presence of a clot; but outside these valves a fibrinous clot was observed, which extended upwards as high as the arch of the aorta, and for some distance also downwards into the descending aorta. Small fibres of the same clot extended into the innominate, left subclavian, and carotid arteries. The arch of the aorta was perhaps a little more rigid than natural, but it did not contain any of those atheromatous deposits which were regarded as characteristic of aortic disease. As the vessel was followed down to its bifurcation into the common iliac arteries, a patch of distinct calcareous deposition was detected at the angle between these two vessels; and on tracing the artery still further, the vessel was found very much thickened, though not in any degree obstructed. Where it became the popliteal artery, it was completely obstructed; and on making a section of the coats of the artery they were found very much thickened, and, as it were, continuous with the plug which created the obstruction. The colour of the plug was yellowish-white, except in its mesial line, which presented a reddish appearance, and from which a minute quantity of reddish fluid could be made to ooze by pressure. Below the popliteal region, the vessel became again pervious, though its caliber was exceedingly small. The anterior and posterior tibial arteries were pervious, but greatly thickened; and lower down, towards the gangrenous parts, the vessel was contracted in a remarkable degree, and plugged up. It was an exceedingly interesting fact, that the arteries of the opposite side presented a nearly equal amount of alteration of structure and appearance, so as to favour the notion of symmetry in organic changes.

Immediately below the bifurcation of the aorta, there was a considerable thickening of both iliac arteries, extending for about an inch and a half, and involving the posterior and internal thirds of the vessels. A section of this thickening showed that the deposit lay between the internal and middle coats of the artery, and that its centre contained a distinct calcareous, gritty substance. About the situation of Poupart's ligament, the arteries of both sides were considerably thickened; and in the course of the vessels downwards,

there were several slight thickenings, which were remarkably symmetrical.

The doctrine of symmetry had been very ably supported by Bizot, who contended that, in diseases of the arterial system, symmetry of organic changes was an absolute law; that the amount of changes at one side was usually represented by an equal amount at the other: and certainly the doctrine was borne out in the present case, for the amount of alteration was equal at both sides, with this single exception, that a portion of the popliteal artery at the left side was obstructed, whilst the corresponding portion at the right side was merely thickened, with narrowing of its tube. Another remarkable feature of the case was the disposition of the blood to coagulate, as evidenced by the fibrinous clots in the heart and elsewhere.

Œdema of the Glottis.—Dr. Law communicated the following particulars of a case of fatal œdema of the glottis, occurring in connexion with small-pox. The subject of the case was a man aged thirty-two years, of robust habit, who had been, it was alleged, vaccinated. He was admitted into Sir Patrick Dun's Hospital, labouring under an attack of small-pox, of three days' standing. The eruption, at the time of admission, was very thick upon the face and upper and lower extremities, but much less so upon the trunk. The patient was what would be termed "heavily sick," being greatly oppressed with the disease, and experiencing no relief, as patients attacked with secondary small-pox usually do, on the appearance of the eruption. The case went on thus for some days, the eruption becoming more and more apparent every day, but exhibiting an unhealthy look. The pustules were not prominent, as in a favourable case, but flattened; and the interspaces were occupied with an erysipelatous inflammation, of a deep violet complexion. The fever did not run very high, nor was there any delirium, and after a time the eruption became confluent in several places, particularly about the knee and elbow joints. Matters went on in this way up to the twelfth day, the patient neither making any complaint nor presenting any alarming symptoms, except the unhealthy appearance of the eruption. On the morning of the thirteenth day, however, Dr. Law was greatly surprised to learn that the man had died shortly before his arrival at the hospital. The apothecary informed him that, at about 9 o'clock on the previous night, he began to complain of a difficulty of breathing, and some degree of soreness about the throat; to relieve which, he applied a sinapism externally, and a strong solution of nitrate of silver internally. After this the patient remained quiet during the night; but on the following morning, at 7 o'clock, the distress of breathing returned, though not to such a degree as to induce the apothecary to think there was much danger to be apprehended. Two hours afterwards, however, he was suddenly seized with a convulsion, and died, having swallowed drinks about ten minutes previously.

Autopsy.—On cutting through the integuments, they were found to be infiltrated with a gelatinous fluid, which did not escape when the incision was made. This infiltration had taken place not only into the subcutaneous areolar tissue, but likewise into the areolar tissue throughout the muscular structure.

On examination of the larynx, it exhibited the epiglottis very much thickened, as also the aryteno-epiglottidean folds of membrane, from infiltration of a gelatinous fluid into the submucous tissue. The sides of the rima glottidis were so approximated, that the passage was almost completely obstructed: there were no pustules, either on the tongue or in the larynx or trachea. Dr. Law had not been able to find among the records of œdema of the glottis any case occurring under the same circumstances as the present; nor in the history of small-pox had he either seen or read of a case of the disease terminating fatally from an exactly similar affection of the throat. Every one knew how common it was for the throat to be engaged, and seriously too, in small-pox, from pustules forming on the mucous membrane of the mouth, and extending down the larynx and trachea. In fact, the similarity of pathological susceptibility proved the identity of the skin and mucous membrane. But in the case to which Dr. Law directed attention it was not the mucous membrane that was the seat of disease, but the submucous reticular areolar tissue, into which was infiltrated a fluid exactly similar to that which was found in the subcutaneous and intermuscular areolar tissue.

From the frequency with which Dr. Law had observed this gelatinous fluid effused into parts affected with diffuse inflammation, he was disposed to regard the variolous inflammation extending to the subcutaneous areolar tissue to be of the same nature in the present instance. He further remarked, that he considered the confluence of the eruption to be essentially diffuse inflammation, as contradistinguished from the discrete form in which the pustules were bounded by adhesive inflammation.

Dr. Law also looked upon the peculiar character of the laryngeal affection as confirmatory of his view, that the inflammation in the present case was of the nature of diffuse inflammation, as he conceived that the larynx was peculiarly susceptible of both this and other forms of disease in all that class of formidable affections designated, from their disturbance of the nervous system, constitutional irritation, namely, glanders, malignant pustules, &c. Of this pathological fact he had met with many instances; not alone when the diffuse inflammation occupied parts in the immediate vicinity of the larynx, but when more distant parts were the seat of it.

Dr. Law conceived that to establish a relation between confluent small-pox and diffuse inflammation, and other similar diseases, would explain the low asthenic type of the symptoms that marked this form of the disease,—this low type of symptoms being common to them all.

Regurgitant Disease, with Fusion of the Aortic Valves ; Dilated Aorta ; Death by Syncope.—Dr. O'Ferrall presented the morbid parts in a case of enlargement of the heart, connected with regurgitation through the aortic valves, and, as often happened, with extensive disease of the aorta itself.

The patient, a man between forty and fifty years of age, was admitted into St. Vincent's Hospital, in a state of extreme exhaustion. He suffered greatly from dyspnoea, and coughed with considerable violence; his pulse was frequent, compressible, and jerking; his strength was very much reduced, and his mind occasionally wandered. On examining his chest, the following phenomena were observed: dulness on percussion over the first and second bones of sternum, over the back of the chest, and extensively over the cardiac region; a rough systolic murmur, loudest about the middle of the sternum; a softer diastolic murmur, loudest at the lower end of that bone. There was a pulsating swelling distinctly visible above the right clavicle, with *frémissement* to the touch; and general anasarca, which extended to the face. On inquiry, it was ascertained that, on the night of his death, about 11 o'clock, he was observed to leave his bed, and walk about the ward, looking into the other beds, and with all the appearance of a person whose mind was wandering. He was conducted back to his own bed by one of the attendants, who remarked his pallid and exhausted appearance. A drink being given to him, he swallowed it, and almost immediately expired, the previous exertion having induced a fatal attack of syncope.

Autopsy.—The heart was enormously enlarged, and firm. On opening the organ, it was evident that the apex was formed by the left ventricle, which in fact constituted nearly the entire bulk of the organ, the right ventricle being merely a narrow, flattened chamber, placed upon the septum. Both ventricles contained blood. The left appeared to be filled up by a yellowish-white fibrinous mass, which extended through the aortic aperture for some distance into the aorta. When a vertical section of this coagulum was made, it was remarked that its white fibrinous portion composed but a very inconsiderable part of the entire, being in fact a mere pellicle upon its surface. The remainder of the mass, which lay in the ventricle like a coagulum in a cup, was of a dark-red colour; and upon this mass, as the body was in the dorsal position, the buffy or fibrinous layer had been formed. The aorta was greatly enlarged, having been dilated into a sac of considerable dimensions. The branches of the aorta were also dilated, and in some degree thickened; and extensive deposits of calcareous formation, in the form of large plates, had taken place on the interior of the aorta in every direction. The innominate lay much above its usual level, and constituted the pulsating swelling before alluded to. On looking down from the tube into the aortic aperture, the usual appearances did not present, but instead, a long, slightly curved slit, which strongly

reminded Dr. O'Ferrall of the peculiar condition so frequently presented in disease of the left auriculo-ventricular opening, when viewed from the left auricle. This slit-like aperture was formed by a fusion of two of the valves into one, and by an elongation of the other; the free margins were curled backwards, so as to admit of regurgitation through the aperture. It was possible that the two folds might have been originally united, although some traces of the triple valve formation were still observed; but if the valve had been originally triple, it was difficult to account for the elongated condition of the opposite fold. There was no disease in the interior of the heart, and the mitral valve was perfectly sound. The disease was, therefore, to be regarded as one of the aorta, producing considerable dilatation of that tube, and attended with deposition of calcareous matter into and beneath the coats of the vessel, extending as far as the valves, and causing them to curl back in a peculiar manner, so as to lead to regurgitation of the blood through the orifice. The heart itself appeared to have been engaged only so far as its muscular structure was concerned, which had necessarily become hypertrophied from the increased action required to support a reflux current into the left ventricle.

Dr. O'Ferrall observed that the preceding case was of interest, in presenting two distinct lesions, the physical signs of which had been well marked during the lifetime of the patient. It was worthy of their attention, as well from the peculiar form of the diseased valves as from affording a good specimen of the condition of the cavity of the left ventricle (in reference to its contents), in connexion with the death of the patient from syncope.

Suppression of Urine; Urea in the Fluid present in the Ventricles of the Brain.—Dr. Banks called attention to a case which was remarkable for presenting an almost universally diseased state of the system, and laid the morbid parts before the Society. The facts of the case were the following.

The patient, a man about fifty years of age, and a painter by occupation, was admitted into the Whitworth Hospital on the 16th February, 1850. It appeared from his own statement that for many years past he was a man of intemperate habits, of which his face was a very truthful index. From the nature of his occupation, he was necessarily exposed to all the vicissitudes of weather, but he, nevertheless, enjoyed tolerably good health during the first thirty years of his life. From that time, however, he began to be subject to inflammatory affections of his chest, which, from his description, were probably bronchitis. He also experienced frequent attacks of rheumatism; and during the previous winter, whilst suffering from one of these, he for the first time began to complain of violent palpitations of the heart, accompanied by uneasy sensations in the cardiac region. About three weeks since, whilst labouring under one of his ordinary bronchitic affections, he observed that his abdomen had become swollen, and that his ankles were to a slight extent anasarcaous. For some time the swelling of the abdomen continued to

increase, and the secretion of urine to diminish in the same proportion. When admitted into hospital, the patient's face wore an expression of extreme vacancy ; the pupils were rather dilated ; the eyes were heavy ; and he was so exceedingly stupid, that it was impossible to obtain from him a satisfactory account of his previous state of health. Bronchial râles were heard over the whole extent of the chest ; and, corresponding with these, there was an abnormal dulness of sound on percussion. The abdomen was enormously swollen, partly from liquid effusion, and partly from tympanitis, and it was also tender upon pressure. He suffered occasionally from diarrhœa after, and for some time previously to, his admission ; and on the day he was taken into hospital he had frequent evacuations, of a dark-greenish colour, from the bowels. On the same day he passed barely two teaspoonfuls of urine ; and from that time until his death, which happened on the fourth day, not a single drop of urine came away. With some difficulty, arising from the existence of a congenital phimosi, a catheter was introduced, and it was then ascertained that the bladder was quite empty. Throughout the whole progress of the case, neither coma nor convulsions supervened ; but the patient frequently roared and screamed, particularly when the abdomen was pressed with the hand. This extreme sensibility was not, however, confined to the abdomen, but was also connected with the entire surface of the body, though in a less remarkable degree.

Autopsy.—On examining the body, an extent of disease very rarely met with was presented to view. The membranes of the brain were opaque, and a considerable quantity of fluid, probably amounting to three ounces, was found beneath the arachnoid. Some fluid was also observed at the base of the brain, and nearly three ounces in the ventricles. The sulci of the brain were filled with a semi-fluid gelatinous effusion, and the whole organ was paler and harder than natural. The right lung was united by adhesions to the costal pleura ; and the left was extensively infiltrated with serous fluid, so as to resemble a sponge filled with water. There was also a little serum in each pleura. As might be conjectured from the frequent attacks of rheumatism to which the patient was subject, the pericardium was universally adherent by a cellular kind of attachment, which was easily broken through. The walls of the left ventricle were much hypertrophied, and the lining membrane of the heart was more opaque than natural. The mitral valve was greatly thickened, and a number of warty vegetations were found upon its edges. The semilunar valves were thicker and more opaque than usual ; and the lining membrane of the interior of the aorta was covered with atheromatous deposition. A large quantity of fluid was found in the cavity of the peritoneum, amounting to nearly two gallons ; the liver was cirrhotic, and as hard as brawn ; and the mucous membrane of the intestines was thicker and softer than natural. The kidneys were partially congested, and of a deep violet colour, and no urine was found either in them, in the ureters,

or in the bladder. The ureters seemed healthy ; the bladder was rather small, and, though contracted, did not present any morbid appearance. The fluid discovered in the ventricles of the brain was subjected to chemical analysis by Dr. Moore, of Anne-street, and was found to contain a considerable quantity of urea.

Dr. Banks observed that it would be interesting, in a case presenting such an unusual amount of disease as the foregoing, to discover the starting point. The cirrhosis might be explained as having, in all probability, originated in the intemperate habits of the patient. It was by no means unlikely that the heart became attacked with inflammation during the previous winter, whilst the patient was suffering from one of his rheumatic seizures, and that the result was an adherent pericardium. In this case, death did not take place at so early a period as it usually does when suppression of urine is complete : the existence of diarrhœa may go far to explain this. It was an interesting feature in the case, that the patient did not die as persons usually do, when there has been a perfect arrest of secretion by the kidneys. Neither coma nor convulsions were present.

The fact connected with the case, to which Dr. Banks particularly directed the attention of the Society, was the existence of urea in the fluid of the ventricles, in such quantity, that a notable amount of nitrate of urea had been readily obtained by Dr. Moore.

Ulceration of the Intestinal Glands, &c.—Dr. Lees exhibited the recent parts, and drew attention to the following case of ulceration of the intestinal glands.

The patient, a young and delicate girl, about nineteen years of age, was admitted into the Meath Hospital on the 14th February, 1850, labouring under symptoms of fever, with hot skin and thirst; but she suffered chiefly from cough and a severe diarrhœa, the latter being remarkable on account of the ochrey-yellow appearance of the stools. She had not the aspect of a person that laboured under ordinary fever ; in fact, her countenance was remarkably pallid, and its hue resembled the complexion of girls affected with chlorosis. She was so listless, that it was scarcely possible to rouse her, or to get an answer to any of the questions put to her. The tongue was fissured, and coated over with whitish fur ; and the abdomen was tender, and tympanitic. This tenderness was chiefly observable in the ileo-cæcal region. A peculiar spasmodic action of the left arm, which she constantly jerked up, was also noticed. The pupils were slightly dilated, and the sibilant râles of bronchitis were heard over the chest. She was also in a state of low delirium. The history of the case, as far as it could be ascertained, was as follows.

She was attacked with pain in the head and left arm, thirst, vomiting, and the usual symptoms of fever, with diarrhœa, about nine days before her admission into hospital. On the day after she came in, she vomited a yellow, bilious-looking matter. There were no maculæ or spots of any kind to be observed upon the skin. She remained in this state for two or three days, during which time the

disease was slightly checked by the treatment, and the fever considerably abated ; but one bad symptom still remained, namely, one of her cheeks was remarkably flushed, and when the flush left one cheek, it almost immediately appeared upon the other. In this way the cheeks continued to be alternately flushed during the further progress of the case ; but the patient, in other respects, went on in a rather favourable manner until the twenty-third day, when Dr. Lees found her in a high state of nervous excitement, accompanied by difficulty of breathing. Her breathing presented a peculiar jerking character, which induced him at first to think that it was to a great extent hysterical ; but having ascertained that she had a rigor on the previous evening, he gave an unfavourable prognosis. The girl sank soon after into a state of collapse, and died.

Autopsy.—On opening the abdomen, the omentum was very fatty ; the mesenteric glands were much enlarged, and vascular ; and the small intestines near the termination of the ileum presented dark patches, which corresponded with deep ulcerations on the inner coat of the intestines, particularly at the lower part of the ileum and ileo-cæcal valve. These ulcerations seemed to have originated, for the most part, in Peyer's and Brunner's glands. The feculent matter found in the intestines presented the same ochrey hue as the stools did during life. Several ulcerations were also observed in the cæcum ; and in some instances, not only the mucous membrane, but even the muscular coats of the intestines, were destroyed.

Dr. Lees remarked, that this case presented one or two points which deserved attention. First, as to the nature of the disease, it would be at once seen, from the drawings he exhibited, that the pathological appearances observed in connexion with the typhoid fever of France were identical with those which were found in the present case. He (Dr. L.) never had met with these appearances in the maculated fever of this country ; but Dr. Law had just informed him that, in a case which once fell under his observation, the same appearances were present.

Was this case to be regarded as an example of ordinary enteritis, which was amenable to treatment, and might be successfully combated by antiphlogistic remedies ? He thought not, and chiefly on this account. The peculiarity of the inflammation in the present case was, that it was circumscribed, and confined to the glands alone, the general mucous membrane of the intestines not being at all inflamed. It was, in fact, a specific form of inflammation which appeared to be localized in the glands.

Secondly : Were these ulcerations primary or secondary ? Did the fever depend on the presence of the ulcerations, or were these latter secondary to the fever ? He was inclined to the latter opinion, for he supposed the fever to be dependent upon the presence of a morbid poison in the blood, and that these ulcerations of the intestines formed one of the secondary phenomena ; just in the same manner as the eruptions in small-pox, measles, and scarlatina, were secondary to the fever, and constituted its anatomical character, though not being the pathological cause of the disease.

Tertiary Syphilis.—Mr. Hamilton exhibited a preparation and drawing, illustrating the pathology of syphilitic disease in the stage termed by French writers “tertiary.”

The patient, a man named Patrick Byrne, came to the Richmond Hospital, about a week since, complaining of distressing dyspnoea. His breathing was attended with the peculiar stridor which is characteristic of disease of the larynx. In consequence of the house being full, he was not admitted until the following day; and on the evening of that day, before anything had been done for him, he got up for the purpose of making water, and on returning to his bed, he sank and died in a gradual manner, apparently from exhaustion, and without any urgent dyspnoea.

Autopsy.—The larynx presented traces of disease, which were quite sufficient to explain the cause of the patient's death. The entire of the mucous membrane exhibited traces of chronic inflammation, being red, thickened, and rough; both chordæ vocales were rough, congested, and thicker than natural. On the right side, in the ventricle of the larynx, a small ulceration existed, which laid bare the cartilage beneath. The lungs, as might have been expected, were much congested. On a former occasion, the same patient had been under treatment in the Richmond Hospital for a syphilitic eruption. This eruption, which was best marked about the umbilicus, forehead, and shoulders, was what had been termed by M. Ricord, “the pustulo-crustaceous eruption.” The patient, at the same time, suffered from pains in his bones; but Mr. Hamilton had been so constantly in the habit of finding this peculiar form of eruption in connexion with tuberculous disease of the testicle, that he was naturally induced to ask the patient whether he ever had anything the matter with that organ, and he replied that he had been tapped for hydrocele. On making an examination, he detected a hard, knotty, and atrophied testicle at the right side of the scrotum. The left side of the scrotum was enlarged to about the size of a cocoa-nut, and on drawing off the water contained in it, he found the left testicle in pretty much the same condition as the right, being hard, irregular, and diminished in bulk; he, therefore, ventured in the present case to diagnose the existence of tubercles in the testicles, which had caused their atrophy, by inducing absorption of the glandular portion of the organ. On a section being made of the atrophied testicles, there were found in the lower part of the epididymis of each a small, yellow, encysted tubercle, verifying the diagnosis. The glandular substance had nearly disappeared, a small, pulpy, red part, the size of a bean, marking its position.

Aneurism of the superior Mesenteric Artery; Physical Signs; Pulpy Degeneration of the Kidneys; Cardiac Disease.—Dr. O'Ferrall exhibited the recent specimens, and said he was anxious to place upon record the following remarkable case of arterial and renal disease.

The patient, a man named Stapleton, about thirty-two years of age, was admitted into St. Vincent's Hospital, in a very exhausted

state. On coming in, he complained of pains which followed rheumatic fever; and on inquiring into his previous history, it appeared that he had had no less than four attacks of rheumatic fever within the last eleven years. He presented, in a remarkable degree, the anemic aspect, and was in such a state of extreme exhaustion, that it was thought syncope might at any moment take place. His pulse had the peculiar jerking character usually found in connexion with regurgitation through the aortic valves; and on examining the chest, a well-marked diastolic murmur was discovered.

On the next day, the patient being in bed, he proceeded to examine the abdomen; here a pulsation was visible, about midway between the umbilicus and the xiphoid cartilage; and on carefully examining in this region, a tumour was discovered. This tumour was about the size of a small apple, of a spherical shape, and lay a little to the left side of the median line. It was not perfectly solid, inasmuch as a fluctuation was perceived when it was carefully manipulated between the fingers of both hands, and a strong diastolic pulsation was also detected in it. When pressure was made upon the tumour, it became partially emptied, but soon filled again, producing the peculiar lateral wave which is recognised as the diastolic pulsation. A distinct *frémissement* was communicated to the hand, and when the stethoscope was laid over the part without making pressure upon it, a loud *soufflet* was audible. The tumour was to a certain extent moveable, and could be displaced to a short distance to the right of the median line, still, however, retaining its physical signs.

On inquiring into the state of the various functions, it was found that his urine was albuminous; so that, with such a complication of untoward signs and symptoms, no hope could be entertained of his recovery. From day to day the tumour presented the same unvarying characters, with one or two exceptions, which are worthy of being recorded.

For example, on one occasion the *frémissement* was found to be limited to the track of a vessel which crossed the surface of the tumour, being elicited when the fingers were pressed along the course of the vessel, and lost exactly at each side of it.

His first impression was, that the *frémissement* did not essentially belong to the tumour; but on subsequent occasions he found that in every part of the tumour the phenomenon was elicited by the slightest pressure.

Now, what was the nature of this tumour? That its contents were liquid was inferred from the fluctuation. It might be an abscess, and its pulsation might be derived from the aorta. But the liquid could be displaced. This latter fact did not disprove the possibility of its being an abscess, for a depot originating in a carious vertebra might present prolongations into which the matter could for a moment be pressed by the fingers. The peculiar mode, however, in which the sac was refilled, and the peculiar diastolic movement, left no doubt on his mind that the sac was refilled from the aorta. The diagnosis of aneurism appeared then the most pro-

bable, and it remained to inquire what vessel was likely to be the seat.

An aneurism of the aorta could not be displaced so far from the line of this trunk, nor indeed could the amount of mobility which the tumour presented be supposed to exist in any of its branches but the mesenteric. The superior mesenteric was that which appeared most likely to be engaged.

Having related the signs and symptoms of the case to the Society, it was not necessary to detain them with a detail of the progress of the case towards a fatal termination; and he would at once proceed to describe the appearances of the parts as they were seen at the post mortem examination.

Autopsy.—The heart was remarkably flabby, much more so, indeed, than he had ever found it in any case where regurgitation had taken place through the aortic orifice. The aorta itself was not dilated, but well-marked vegetations were observed upon the free margins of each of its valves. The valves appeared to be shortened in two directions, namely, from corner to corner, and also in the interval between the adherent and free margins. There was, therefore, an amount of organic change quite sufficient to account for the diastolic murmur observed during life. The most remarkable feature of the case, however, was the flaccidity of the heart.

The kidney was next examined, and presented an appearance such as he had never previously met with; it looked as if it was infiltrated with water, and resembled the condition occasionally presented by a kidney when the process of putrefaction had set in. When a section was made through its capsule, the substance of the kidney protruded in a pulpy form, somewhat resembling that of a softened testis, when the tunica albuginea is divided; in fact, its appearance was quite new to him, nor was he able to find in the works of pathological writers any account of a kidney having similar characters.

A portion of the kidney of the opposite side was examined under the microscope, by Dr. Lyons, and he was informed by that gentleman that the Malpighian bodies were completely broken up, and that, altogether, the characters of the kidney were such as had not been heretofore described.

The superior mesenteric artery proved to be the seat of an aneurism about two inches in diameter, which was situated between the layers of the mesentery, and was found on section to be lined throughout with a fibrinous deposit. On examining the diseased artery more minutely, it was found that two minute, pyriform sacs sprang from the vessel, about half an inch nearer to the aorta. These minute aneurisms appeared like diverticula from the vessel; they were pediculated in form, the bulbous portion about the size of a pea, and the neck admitting a small probe to pass from the artery into the fundus of the sac. A section of these little sacs displayed a distinct fibrinous deposit, similar to that which was found within the larger aneurism.

Dr. O'Ferrall said he regarded this aneurism as one of remarkable interest ; first, on account of its great rarity ; and secondly, from the fact that he was able to detect all the physical signs diagnostic of aneurism during the lifetime of the patient, and to place them upon record as well-observed facts. It was scarcely necessary to remark, that the two small aneurisms were not suspected to exist during life.

At a recent meeting of the Medical Society of Edinburgh, Dr. Gairdner brought forward a case of mesenteric aneurism, and mentioned his belief that a double sound in this situation might be considered characteristic of the disease.

Now, with respect to the double sound, he (Dr. O'F.) was persuaded that any person who relied upon it as a guide would fall into serious error. Even in thoracic aneurism, this sign should not be depended on. He has frequently observed the double sound along the aorta in persons who were entirely free from disease.

Dr. Gairdner (whose opinions are entitled to the greatest respect), though proposing that this double sound should be received as diagnostic of aneurism in the abdomen, did not state that it was observed in the particular case he himself adduced ; and in fact it would appear that in that instance no stethoscopic examination of the patient had been made.

Pathology of neglected Paronychia.—Dr. Robert W. Smith, in the absence of Sir Philip Crampton, drew attention to a specimen showing the pathological results produced in a case of neglected paronychia. It was the hand of a man who was admitted into the Meath Hospital in an advanced stage of the disease. The affection originated in a bite which he received in one of his fingers, but he paid very little attention to it until hectic fever supervened, and great disorganization of the hand had taken place. On admission it was deemed necessary to remove the limb at a short distance below the elbow-joint.

Dr. Smith thought this case interesting in a practical point of view, as inculcating the importance of seeking for surgical aid at an early stage of paronychia. This was the fourth specimen which had fallen under his observation, where amputation of the fore-arm was performed in consequence of paronychia induced by bites. In the majority of these cases the sufferers were females, a circumstance which was, he supposed, to be attributed to the fact, that women, when they quarrelled, more frequently used their teeth for the purpose of injuring their opponents, than men. The present case, however, was the second he had met with where a man had been bitten. It would appear that a bite of this kind produced a wound which was both lacerated and contused, and it was easy to understand how such a wound could lacerate a tendon or its sheath, and so produce paronychia. In the treatment of these cases it was necessary to make a very free incision, and if this is not done at an early period, the inflammation spreads with great rapidity along the tendons in the palm of the hand, and involves the synovial membranes of all

the carpal bones, producing ulceration of the cartilages and caries of the bones themselves. From thence it would run up the arm, following the sheaths of the tendons; so that, under all the circumstances of the case, the practice adopted by Sir Philip Crampton (which was approved of by Sir Astley Cooper and others) was the best that could be selected, namely, that of amputating the limb high up. Sir Philip Crampton objected to an operation immediately above the wrist, in consequence of the number of tendons in that situation, and their great liability to be attacked with inflammation, in which event, the inflammation would run up the fore-arm, and, should amputation be performed under such circumstances, produce a number of abscesses in the stump. To avoid this undesirable result, the amputation was performed, in the present instance, at the upper third of the fore-arm. The case formed a good example of the morbid appearances produced by neglected paronychia. The tendons resembled a mass of wet tow, and a number of abscesses surrounded and extended into the wrist-joint.

Inadequacy of the Aortic Valves, with Pulmonary Apoplexy.—Dr. Neligan presented a specimen of disease of the aortic valves, which permitted regurgitation through the valvular orifice. This affection had been well described by Dr. Corrigan, who, from time to time, had brought many examples of it before the Society; and the only novel feature in the present case was the occurrence of pulmonary apoplexy, a rather rare circumstance in connexion with this condition of the heart. The patient, however, did not die of the pulmonary apoplexy, which took place fully twelve days before his death. He was a soldier, and, notwithstanding the affection of his heart, had been able to discharge the arduous duties of an hospital orderly for several years. On referring to the hospital case-book, it appeared that the disease commenced about the year 1844, when he had an attack of acute rheumatism; but this illness did not seem to have been at all severe, as he was able to resume the usual duties of a cavalry soldier at the end of a week. After this he was but twice in hospital, and on each occasion his only complaint was difficulty of breathing, and there was no other symptom of disease discoverable. His countenance presented an appearance sometimes seen in chronic disease of the heart, but rarely so well marked as in this case, the complexion being deep crimson, and the crimson hue bordered by a distinct yellow line just at the front of the ear, and at each side of the nose; and it was remarked that at times the crimson colour would deepen, and extend over the whole face. With regard to the dyspnoea, it was an interesting feature of the case that the man was, at all times, able to sleep with most ease when he lay flat upon the bed; and that sitting up never enabled him to breathe more freely, until about one week before he died, when effusion took place into the pleuræ and pericardium.

Autopsy.—The left ventricle was hypertrophied, and when water was poured into the aorta, it passed freely and in a full stream through the open orifice. On examination it was found that the

free edges of the aortic valves were somewhat cartilaginous. The size of the left ventricle was not so great as it is usually found to be in aortic regurgitation, but still it was an excellent specimen of concentric hypertrophy; and, as Dr. Corrigan had already pointed out in other cases, the heart lay in a transverse position in the chest, the apex being formed, as it invariably was in cases of a similar nature, by the apex of the left ventricle. There were several apoplectic circumscribed clots of black blood throughout both the lungs, but none of them diffuse, which would account for there being no expectoration of blood during life. The period of the occurrence of the pulmonary apoplexy was well marked by an attack of coma, which took place about twelve days before his death, but from the immediate effect of which he seemed to have completely recovered. With respect to the symptoms of the heart disease, he might state that all those which have been ordinarily enumerated were well marked in the present case. There were *frémissement*, and visible pulsation of the carotid and femoral arteries, and, on elevating the arm, in the arteries of the wrist. A loud, soft bruit accompanied the second sound of the heart, which was constantly present after he had the rheumatic attack. The disease was diagnosed at a very early period, and thenceforward the progress of the case was watched with the utmost care. The immediate cause of his death was not the pulmonary apoplexy, but effusion into the cavities of the pericardium and pleuræ.

Fever complicated by Jaundice.—Dr. Banks communicated the details of a case of fever, followed by jaundice, and terminating in death. The patient, a young woman about nineteen years of age, was admitted into the Hardwicke Hospital on the 29th March, 1850. On inquiry being made into her previous history, she stated she had been in the enjoyment of good health up to the evening of the 25th inst., when she had a shivering fit, which was followed by heat of skin, and the ordinary symptoms of fever; and on the evening of Thursday, the day before her admission, the persons with whom she lodged turned her out into the street, fearing she might communicate the fever to themselves. She passed the night under an open archway, and on Friday, the 29th, she was taken into the hospital. She presented the usual symptoms of mild fever. On the following day she complained of some tenderness in the abdomen, together with a sensation of nausea, and towards evening she threw up some fluid of a green colour. The next day she complained of excessive tenderness over the epigastrium, extending to the right and left hypochondrium. Her tongue was covered with a yellowish fur, and the pulse was about 110, but none of the symptoms indicated a dangerous form of fever. On the 2nd of April, he found her universally jaundiced. The jaundice was of a bright yellow hue, and with its appearance the pain and uneasiness in the abdomen increased, and there was also an abnormal extent of dulness, together with tenderness in the right hypochondrium. She stated that she was likewise suffering from headach, and that she had passed a perfectly

sleepless night. On the 3rd of April, the jaundice was of a still deeper colour, and the slightest pressure on the abdomen caused intense pain. Her respiration was hurried, but on examining her chest with the stethoscope, the lungs were found to be free from disease. Her bowels, which were constipated in the first instance, afterwards became tolerably free, the evacuations being of a dark colour and fetid. The urine resembled an infusion of senna. On the morning of the 4th April, she stated that she had passed a restless night. The expression of her countenance was dull and heavy, and the pain in the abdomen was more severe than ever, so much so that she was unable to make the slightest movement without experiencing the greatest agony, and she complained of the pain passing back from the epigastrium towards the spine. Her pulse was feeble, and her condition extremely low, and she remained in this state until about noon, when she began to rave. At 4 o'clock, P. M., she was seized with convulsions, and she died on the same evening, about two hours later.

Autopsy.—The whole surface of the body was of a bright orange hue, and on throwing back the integuments from the sternum and abdomen, the superficial fat, which existed in considerable quantity, was found to have the same colour. The cartilages of the ribs also, and the abdominal viscera, presented a similar appearance. The lungs were free from disease, but on making a section of one of them, some fluid of a yellow colour was found in the bronchial tubes. The pericardium was loaded with fat of a yellow hue. The fat upon the right ventricle bore the same appearance; and the left ventricle was dilated and thicker than natural. In the cavity of each ventricle a clot of a deep yellow colour was discovered. The liver was enlarged, softer than natural, and readily broke down under pressure. The gall-bladder contained some dark-coloured bile, but its ducts were pervious, and the bile might still be pressed into the intestines. The surface of the duodenum was also of a bright orange hue, and presented the traces of recent acute inflammation. The lining membrane of the œsophagus was of a deep red colour, and the mucous membrane of the stomach of a bright yellow, with small patches of redness here and there. The spleen was greatly enlarged, and broke down upon the slightest pressure. The kidneys were also enlarged and very much congested, and the calices were of a bright yellow colour. No trace of inflammation could be found upon any portion of the peritoneal surface, which seemed to be morbidly dry; but the duodenum had evidently been the seat of intense inflammation. On examining the brain, the dura mater was found to be deeply tinged with the same yellow colour which had permeated the other tissues. The surface of the brain was morbidly vascular, and a gelatinous effusion had taken place beneath the arachnoid. A small amount of fluid, of a yellow colour, was found in the ventricles.

Dr. Banks remarked that the preceding case was rendered interesting by the fact, that for the first few days after the patient

was admitted into hospital, there was nothing whatever to lead him to suppose that the patient's life was in danger. On the 2nd of April she first became jaundiced, and she died on the 4th. The case pointed out the importance which attached to jaundice when it was a complication of fever, and the rapidity with which it had progressed to a fatal termination suggested that the practitioner should be on his guard against forming a favourable prognosis in every case of jaundice which came under his observation. He was disposed to think that the profession had been in the habit of viewing jaundice, both when it occurred alone and as a complication of some other disease, as a far less formidable affection than it really was; but the present case showed the importance which should always be assigned to it, even though aware of the fact that fever complicated with jaundice often terminated favourably.

In this case it appeared to him that the rapid absorption of the bile, in large quantity, immediately upon its formation, and its mixture with the blood, which was evidenced by its almost universal presence in the tissues of the body, was the cause of death. Under such circumstances the bile may, in truth, be looked upon in the light of a poison.

Renal Calculus.—Dr. Lees called attention to a specimen bearing upon the diagnosis of renal disease. The patient, an old woman, had a smooth moveable tumour, which did not pulsate, nearly as large as the hand, in the left hypochondrium just beneath the false ribs of the left side, but not extending as high up as the spleen. It yielded a dull sound on percussion, and the patient suffered from constant vomiting, with diarrhoea. The left leg and foot were œdematous. The woman, who was rapidly sinking when he saw her, died on the following day.

Autopsy.—The omentum was spread over the intestines like a cloth, but, though firmly bound down, there were no adhesions. The tumour presented between the colon and the end of the stomach, and was formed by a large cyst in the left kidney. There were three distinct cysts within the organ, one enormous one, and two of a smaller size. A calculus was found in the largest cyst, and a communication was discovered between the middle and lowest of the three. The urine and calculus were examined by M. Alphonse Gages, assistant chemist to the Museum of Irish Industry, who forwarded Dr. Lees the following report of it:—"The fluid was urine, differing from ordinary urine in containing a smaller quantity of urea, a considerable amount of albumen, and many spangles of cholesterine; it also contained soluble silica and iron. A large quantity of cholesterine was procured from the fluid. An examination of the calculus showed that the nucleus was formed of oxalate of lime, upon which phosphate of lime and triple phosphate had been subsequently deposited."

Dr. Lees thought the preceding case of some interest in connexion with the diagnosis of tumours in the abdomen, for though it might seem an easy matter to a person who had merely seen this

tumour removed from its situation, to form a correct opinion as to its exact nature and situation, yet this was far from the case in the present instance. Indeed, he candidly confessed, that at first he supposed the tumour was connected with the omentum. Incessant vomiting was the chief symptom, and when to this feature of the case was added dulness on percussion over its situation, it made the accurate diagnosis of the disease more difficult. It was the general opinion, that when the kidney was the subject of a disease such as this, a clear sound would be produced by percussion, but such did not occur here; and the circumstance was explained by the autopsy, when it was found that all the intestines were firmly bound down by the omentum. Here then was a tumour, full of fluid, which yielded a dull sound on percussion. With respect to the formation of the cysts, it was not difficult to explain their existence, if they supposed that a calculus became imbedded in the kidney; for the presence of such a foreign body would speedily cause the substance of the organ to become absorbed, and thus produce cysts similar to those which were met with in the present case. The discovery of cholesterine in the fluid taken from the cysts, was an interesting feature in the case. He was unable to say whether this substance was derived from the urine or not, but when he considered that cholesterine was not one of the natural constituents of urine, he was disposed to think it must have been secreted by the surface of the sac itself. It was pretty well known that cholesterine had been already discovered in the blood and in the fluid of hydrocele; and it was, therefore, not altogether improbable that the surface of the sac within the kidney of this old woman might have secreted a fluid more or less resembling what was found in a hydrocele, and, like it, containing cholesterine.

Intestinal Calculus in a Horse.—Dr. Neligan exhibited a calculus of immense size taken from the intestines of a mare. When recently removed from the body of the animal, it weighed three pounds and three quarters, and resembled, as his friend, Dr. M'Donnell, had well remarked, a piece of marine tufa, upon the surface of which small pieces of sponge had grown. The mare in question was nineteen years old at the time of her death, had served in the Carabineers for thirteen years, and during all that time never required a dose of medicine. On that day week, the 30th of March, 1850, she first took ill. The symptoms were those of intestinal obstruction, and she died on the morning of Tuesday, the second of April. A post mortem examination was made by Mr. Cherry, the veterinary surgeon of the regiment, who informed him that a large shovelful of gravel was discovered in the last pouch of the colon, near the commencement of the rectum, and immediately above the calculus, by which its onward progress had probably been arrested. But the chief point of interest was the presence of this huge calculus in the intestines. A specimen of the calculus was given by Dr. Neligan to Mr. W. K. Sullivan for analysis, and that gentleman ascertained that it consisted almost entirely of resin, probably of

the same description as that which was recently found in human fæces; and he might mention, that a considerable quantity of decomposed fæces was detected in the intestines of this animal, particularly in the neighbourhood of the calculus. A substance was observed in the stone, which Dr. Lyons supposed to be the husk of the oat; and a portion of phosphate of lime, which was one of the natural constituents of the oat, was mixed up with the other ingredients. The gravel found in the colon was traced to the Dodder, where the servant who had charge of the mare (which belonged to an officer in the Carabineers), was in the habit of bringing her to drink. The animal was a greedy drinker, and frequently swallowed portions of gravel along with the water. In the museum of Mr. Dycer, of Stephen's-green, there were a large number of calculi which were taken from horses, but none of them were as large as the present specimen; and Mr. Dycer mentioned to Dr. Neligan that in every case of the kind which had fallen under his own observation, there were symptoms sufficiently well marked during life, to enable him to diagnose the existence of a calculus. The present specimen was evidently a biliary calculus, which, in the first instance, passed into the duodenum, and which, after remaining there for a period too short to give rise to inflammation, made its way into the intestines, and there acquired its present large size before it gave rise to the destruction that caused the death of the animal.

Dislocation of the Knee.—Dr. Adams, in bringing forward a case of dislocation of the knee, observed that he concurred in the remark of Sir Astley Cooper, that dislocations of the knee were rare, and that every case of this accident which fell under the observation of the surgeon should be carefully and accurately reported. This injunction of Sir A. Cooper had always been borne in mind by the members of this Society. Already two cases of accidental dislocation of the knee had been brought before it, one of which was detailed by Dr. Hutton, and the other by Mr. Hamilton. Both had been patients in the Richmond Hospital. For the case Dr. Adams was about to adduce,—the features of the injury are well preserved by a cast,—the Society was indebted to Mr. Brabazon, the surgeon of the County Down Infirmary. In this, as in the other two cases just alluded to, the lower extremity of the femur was dislocated backwards and downwards, and the tibia and fibula forwards and upwards in front of the femur. The nature of the injury was here, as it always is, clearly indicated by the appearance of the limb. In fact the dislocation spoke for itself, for the remarkable prominence which presented in the popliteal region, formed by the condyles of the femur, and the nearly horizontal position of the patella, plainly pointed out the nature of the accident. Another circumstance highly characteristic of this dislocation, was the remarkable transverse sulcus existing at the front lower extremity of the femur, in the situation of the attachment of the extensor tendons into the superior margin of the patella. In addition to this there was an increase of circumference of the limb at the knee, measured across

the popliteal region, together with a shortening in the length of the limb, as compared with that of the opposite side, to the extent of two inches or more. The following are the notes of the case.

John Hamill, aged 55, a farmer, a healthy, muscular man, of temperate habits, was admitted into the County Down Infirmary on the 16th of March, 1850, under the following circumstances. He states that on this day, while in the act of descending a ladder, it broke, and he fell from a height of about ten feet. He alighted on his feet, but was then thrown on his side by the force of the fall, and was unable to rise. On examination two hours subsequently, his condition was as follows. The left leg was a little flexed; the foot of this side, somewhat inverted, rested on the dorsum of the right foot; the upper extremity of the tibia and fibula had ascended in front of the lower part of the femur, and the anterior aspect of the patella looked rather upwards than forwards. The posterior part of the condyles of the femur were distinctly felt resting behind the tibia and fibula (which last preserved its relation to the tibia). The outer condyle was especially prominent; the integuments covering this condyle being rendered so very tense that some laceration resulted. It was found impossible either to flex or extend the leg, nor could these movements be communicated; but some degree of lateral motion might be made by the hand of the surgeon. The patient complained of violent pain in the thigh and ankle, and on examination the latter was found to be severely sprained. The foot was cold and glazed, and was the seat of a painful sense of numbness; there was no trace of pulsation in the popliteal or tibial arteries; the muscles of the front of the thigh were very flaccid; a transverse deep sulcus marked the attachment of the extensor tendons to the top of the patella. On accurate measurement the limb was found to be shortened two inches; the circumference of the leg over the patella being two and a half inches; and over the centre of the calf of the leg, two inches and three-quarters more than in the uninjured limb. The reduction was easily accomplished by extension and counter-extension, while Mr. Brabazon made methodical pressure, in opposite directions, on the extremities of the displaced bones. The limb was placed on a straight splint, and cold lotions applied, and within two hours afterwards the foot commenced to grow warm, and pulsation became established in the tibial arteries. In twelve hours there was considerable effusion into the joint, which disappeared, however, in a few days. On the sixteenth day passive motion and friction were resorted to. There was no constitutional disturbance throughout the progress of the case.

He (Dr. Adams) could not conclude without impressing upon the minds of his more youthful hearers, who might hereafter be called upon to deal with dislocations in distant parts of the globe, the great importance of taking casts of the different cases of dislocations which came under their observation, whereby one dislocation might be compared with another, and by this means the student would

make himself and others familiar with the *physiognomy*—if he might use the term—of this class of accidents. He would venture to assert, that any person who carefully examined these casts then exhibited to the Society, would be able to recognise this form of dislocation of the knee at first sight, should he hereafter in the course of his practice happen to meet with a case of the kind, and merely from the peculiar expression or physiognomy the injury presented.

Delirium Tremens, with Typhoid Pneumonia.—Dr. Banks detailed the following case, and exhibited the recent specimen.

The patient, a man aged about forty years, was admitted into the Hardwicke Hospital on the 10th of April, 1850. He stated on admission, that he had been drinking ardent spirits very freely during the last few days, but denied that he was a habitual drunkard. Four days before his admission he became chilly, and soon afterwards he was attacked with shivering, sickness of stomach, and general depression; in consequence of which, as he supposed, he was unable to sleep for several nights. He also had slight cough, with some difficulty of breathing; his voice was husky, and his countenance wore an expression of anxiety; he was uneasy and fidgety, and, on the day of his admission, complained of a stitch in the right side.

On examining the chest, the respiration was found natural, and the whole of the thorax was resonant on percussion, with the exception of the base of the right lung, where a certain amount of dulness, some feebleness of respiration, and a friction sound, were observed.

On the night of the day on which he was admitted he could not sleep, and it was remarked that he got out of bed during the night, and walked up and down the ward, talking about matters of business. On the following morning it was observed that the dulness, which was at first confined to the very base of the right lung, had extended upwards. No crepitating râle could be heard, but the greater part of the right side was dull on percussion, and respiration was totally inaudible. He passed the next day and night without much change, and on the following night he obtained some sleep. The delirium, however, again supervened, and the patient continued in this state until 10 o'clock on the previous night (April 12th), when he fell into a condition bordering on coma, from which he could be partially roused; but he died on that morning, at 5 o'clock.

Autopsy.—The greater part of the right lung was found in a state of solidification, and in some places had passed into the third stage of pneumonia. On making a section of this lung, a number of yellow patches were observed in different portions of the pulmonary structure, which broke down under the slightest pressure. Lymph had been effused on the base of the right lung, and also on the adjoining pleura. The disease seemed to have just commenced in the left lung, and this again might be said to be in the first stage of pneumonia. There was no trace of pericarditis, but firm clots of fibrine were found filling the cavities of the heart. No evidence could be discovered to indicate that the patient had suffered from

gastritis; but he was able to find traces of duodenitis, not, however, of recent standing. The whole of the surface of the brain was extremely vascular and congested, and the arachnoid membrane was remarkably opaque. There was likewise effusion beneath the arachnoid, in which some blood was observed, presenting what would be considered as indicative of meningeal apoplexy. There was no effusion into the ventricles. The liver was slightly puckered on the surface, and appeared to be in the first stage of cirrhosis.

Dr. Banks observed that the foregoing was one of those cases in which the physician was exceedingly liable to fall into an error of diagnosis. The existence of the pleuritic stitch, and the friction sound, rapidly followed by extensive dulness, and not preceded by the signs of pneumonia, formed a category of circumstances from which a practitioner might be led into the mistake of supposing the case to be an example of pleuritis succeeded by effusion. It was a fact worthy of attention in the case, that the expectoration was slightly viscid, and presented the colour almost peculiar to pneumonia; and this circumstance, together with a knowledge of the frequent occurrence of pneumonia as a complication in cases of delirium tremens from excess, and the extreme rapidity of its formation (the characters of which had been so accurately described by Dr. Stokes), led him to form the opinion that the case was one of typhoid pneumonia, an opinion which was subsequently verified by the post mortem examination. It was now pretty well known that not only inflammation of the lungs, but also of the mucous membrane of the stomach and investing membrane of the heart, was frequently found in connexion with typhoid pneumonia; but in the present case the mucous membrane of the stomach was not inflamed, nor did pericarditis exist, but the inflammation of the lung was very extensive, and such was the rapidity of its progress, that, in less than twenty-four hours, the lung which had been previously resonant on percussion, and readily permitted the air to enter it, had become perfectly solid.

Scrofulous Ulceration of the Intestines.—Dr. Lees exhibited the morbid appearances in a case, for an account of which he was indebted to his friend Dr. Shannon.

The patient, a female, was under Dr. Shannon's care, labouring under diarrhoea and obstinate vomiting. After a short time, she sank and died, and the following appearances were observed when the body was opened. The peritoneum was of a black, or rather deep blue tint, as if it had been brushed over with a camel's hair pencil; and the mesentery was dotted with the same curious-looking appearance. The whole of the ileum was one track of ulceration, and the ileo-cæcal valve was completely destroyed. The ulceration seemed to have originated in the glands of the intestine. Tubercles also existed in the lungs; so that the case might be regarded as an example of scrofulous ulceration of the intestines, bearing some resemblance to melanosis.

Valvular Disease of the Heart; the Pathology of its early Stage.—Dr. Corrigan exhibited a specimen illustrative of valvular disease of the heart, in its incipient stage, and made the following observations in reference to the case from which it was taken. There have always been abundant opportunities of examining diseases of the heart in their advanced or confirmed stages, but it is not often that we have opportunities of examining cases in which the diseased action had only existed for a short period of time; and in this point of view, namely, as showing them how valvular disease commences in this organ, the case he was about to detail possessed considerable interest. A girl of about fifteen years of age, well formed and muscular, was admitted into the Whitworth Hospital, on Saturday, the 16th February, 1850. Her chest was well developed, and she had enjoyed good health up to the period of her first attack of illness, which occurred about a month prior to her admission; this enables us to fix the date of the commencement of the attack which gave rise to the cardiac disease. About a month back she was seized with cough, retching, and violent palpitation of the heart, in consequence of which she was for some days confined to her bed. She then, however, returned to the discharge of her duties as children's maid, and remained in service up to the period of her admission. Two or three days before admission, the palpitations became exceedingly troublesome, her strength rapidly declined, and her ankles began to swell, and in this condition she was admitted to hospital. On Monday, the 18th, he (Dr. Corrigan) saw her for the first time, and her symptoms were then nearly the same as on the day of her admission (Saturday); they were those of well-marked pericarditis and endocarditis. Her countenance presented the peculiar expression of anxiety which belonged to these diseases, the muscles of the forehead being slightly contracted, the lips livid, and the *alæ nasi* dilated like those of a person who had been after running a considerable distance. The pulse was quick and sharp, and bore very little pressure. On examining the chest it yielded a clear sound on percussion posteriorly, and the respiration was natural. Anteriorly the right side of the chest was also clear on percussion, but on percussing the left side, a symptom occasionally present in pericarditis was observed, namely, a dulness extending from the sterno-clavicular articulation down to the ensiform cartilage, and occupying altogether a space of at least six inches square. On applying the hand over the chest the heart was felt strongly pulsating over a considerable extent of surface; and another very remarkable symptom was observed with the naked eye, namely, a wave swelling up between the cartilages of the third and fourth ribs, and corresponding in its rise and fall with the pulsations of the heart below the left mamma. There was a *bruit de soufflet* occupying the entire of the cardiac region, but no friction sound whatever. The patient lived until the 22nd of February, and then sank and died, never having once complained of pain throughout the whole course of the attack.

Autopsy.—On throwing back the sternum the pericardium lay

exposed to view, and exactly corresponded with the line of the dullness which was observed during life. The pericardium contained a very large quantity of straw-coloured serum, slightly tinged with blood, and on turning it back the heart presented a beautiful appearance, arising from crimson, purple, blue, vermilion, and other rich colours, blended together on its surface, in that peculiar style which painters term "stippling." On slitting open the heart a recent deposition of lymph, or fibrine of the blood, was found upon one of the aortic valves. The edges of the mitral valve were thick and pulpy, and of a yellowish colour, like that of ordinary lymph. The principal feature of interest in the foregoing case is, our having been able to fix the date of the commencement of the disease, and to observe the manner in which valvular disease of the heart begins, namely, by deposition of lymph, which is thrown out by inflammatory action, in the same manner as in inflammation of serous membranes in other parts of the body. The lymph being thus deposited upon the valves, or within their folds, undergoes a process of contraction, by which the edges of the valves are gradually drawn in together, so as to reduce the size of the opening. The knowledge of this fact naturally suggests the treatment, namely, to put the patient under the full influence of mercury, with a view to promote the absorption of the adventitious fibrine. This case, in combination with similar cases laid before the Society, also shows us how long lymph may lie on the valves or pericardium, and yet remain in a state capable of being absorbed.

MEDICAL MISCELLANY.

SELECTIONS FROM BRITISH AND FOREIGN PERIODICALS.

On Chloroform in the Treatment of Cutaneous Diseases, and in some Nervous Affections. By M. DEVERGIE, Physician to the Hôpital Saint Louis.

WHEN therapeutics become enriched by the addition of a new remedy, every physician should hasten to test its value according to his opportunities, in order to ascertain what advantage can be derived from it in the treatment of disease. With this object in view I have tried chloroform at the Hôpital Saint Louis, and in my private practice. This agent is not alone a powerful anæsthetic, for its great volatility entitles it to be classed with ether and ammonia,

and, in a word, with all bodies which are capable of very rapidly withdrawing a large amount of caloric from an inflamed or irritated part.

I have tested chloroform both in hysteria and in the treatment of cutaneous diseases, and shall now proceed to detail the results I have obtained from it in these affections.

A young lady of rank, aged 19, had for two years been subject to hysterical attacks, recurring three, four, or five times in a month. Many modes of treatment had been adopted, various physicians had been consulted, and the remedy finally recommended was marriage. This young lady had, in addition, for fifteen months laboured under a lichenous affection of the face, neck, and hands; and after the unsuccessful employment of several medicated applications, she was placed under my care. My attention was at first drawn entirely to the lichenous eruption; the hysterical attacks were alluded to by her parents as a merely secondary affection. After many months of treatment the cutaneous eruption was entirely cured, and it was when I had succeeded in this that my attention was called to the attacks of hysteria. I at first thought that I observed a certain regularity in their occurrence, and I administered the sulphate of quina. This seemed to retard their appearance, but various emotions soon reproduced them with more intensity, and I witnessed many of the fits. It was hysteria in the second degree, with loss of consciousness, automatic movements, convulsions, and general agitation of the body: the attack lasted several hours. In this state I found the patient at my next visit; the attack had lasted a quarter of an hour when I arrived. I poured twelve or fifteen drops of chloroform on a handkerchief, and compelled her to inhale it without completely obstructing her mouth. At the end of some minutes she fell into a sort of collapse, slept quietly, and although it is now more than a year since this remedy had been adopted, the attacks have not returned.

In many similar cases, in which, however, the attacks were less violent, the hysterical symptoms have been quickly allayed by the exhibition of a draught containing twelve drops of chloroform in about two ounces of fluid; so that I am induced to consider it a much more powerful antispasmodic than ether, a fact already pointed out by others. We know how efficacious it has been found in neuralgic pains. Frictions with an ointment chiefly composed of chloroform, in the proportion of four parts to thirty of lard, relieve such pains quickly and with much certainty.

A lady had been for many years subject to attacks of most intense facial neuralgia, so as seriously to affect her general health. She had already caused several teeth to be drawn without obtaining relief, and, notwithstanding, determined to have another removed, attributing to the decay of these organs, from which her brothers likewise suffered, the pains she experienced. She went to her dentist, and begged him to place her under the influence of chloroform. This being effected, the tooth was removed. It is now many

months since the operation was performed under the influence of chloroform, and although many decayed teeth still remain close to those which were extracted, the neuralgia has entirely disappeared. I am convinced that many practitioners could bring forward similar facts.

I now come to speak of the application of chloroform to the treatment of diseases of the skin. From the experiments I have made on this subject, it would appear that chloroform is without any marked efficacy, so far as the diseased condition of the skin itself is concerned. It can only, in some cases, allay certain symptoms of the disease, for example, the itching. It has, in this respect, but little effect on eczema and herpes, but in the other pruriginous eruptions, lichen and prurigo, it is very efficacious. Now to diminish, if not completely remove so prominent and troublesome a symptom of a cutaneous affection as partial or general prurigo, becomes in itself a means of cure. By allaying the irritation, we prevent the patient from scratching, and thus place the disease in a condition much more favourable for cure. The intensity of this symptom in prurigo pudendi, or prurigo ani, is well known. Patients affected with general prurigo sleep an hour or two at the most, and are then awoken by the itching which the heat of the bed excites: they uncover themselves, walk about their room, stretch themselves on the floor in search of the coolness which alone brings some relief to the irritation, which they can only allay by scratching until the blood oozes from the papulæ. They lie down again, sleep for a little, but are soon again aroused; and it is not until the dawn of day, that, exhausted with suffering and fatigue, they obtain a little quiet and repose.

In this disease, not only does chloroform, like camphor, allay the irritation, but, thus spread over the surface of the skin, it volatilizes, and in the state of vapour acts on the entire nervous system, sometimes procuring in this manner relief and sleep. It is in this latter point of view only, that I would attribute to chloroform some superiority over camphor; for I must say that in respect of allaying irritation, I should not be inclined to recognise in it a marked advantage over this latter agent; its effects, besides, are not always certain. When I tried this remedy on a large scale, I had two patients affected with prurigo of the anus in the same ward, and nearly opposite to one another. In one case the disease was in a short time remarkably relieved by the chloroform ointment. In the other the same ointment produced no result, although we might say there was apparently identity of disease in the two cases.

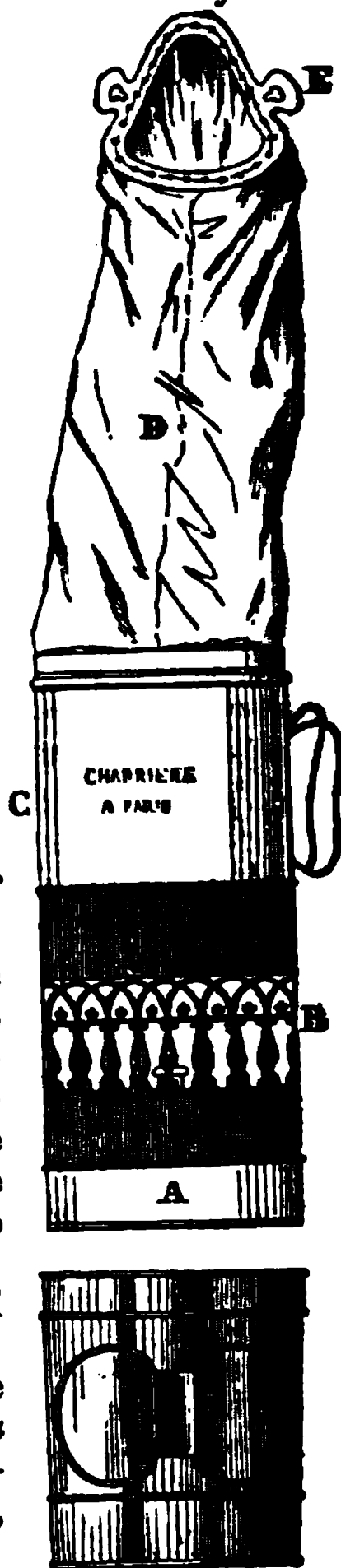
Upon the whole, we may, I think, consider chloroform, in reference to cutaneous diseases, as a remedy strikingly similar to camphor, in its power of allaying irritation. In addition it has the advantage of acting on the nervous system in general, by means of the atmosphere in which it places the patient; and it is more sedative than camphor. But, on the other hand, it has a less decidedly resolvent action on the skin. Like camphor, it may be employed

with success in all papular affections. With the exception of these it is, I believe, of scarcely any service in diseases of the skin. I generally direct the chloroform ointment to be prepared with two or three parts of chloroform to thirty of lard.—*Bulletin Thérapeutique*, April, 1850.

New Fumigating Apparatus.—M. Charrière has recently exhibited before the National Academy of Medicine of Paris, a new fumigating apparatus, chiefly designed for the respiratory organs, and which has been successfully tried in many of the hospitals of that city. The various instruments hitherto known and employed in practice laboured under the disadvantage of being furnished with tubes which only allowed the medicated matters to pass in the form of vapour of insupportably high temperature. Exigencies of the moment have led to the adoption of extemporary contrivances, which, although more suitable, but imperfectly fulfilled the requisite indications. The apparatus of M. Charrière, however, possesses the advantage of enabling the patient, 1st, to inspire and expire into a large elastic tube, in itself forming part of the reservoir of the fluid; 2ndly, to inspire only (expiration being performed without the mouth being applied to the instrument) medicated vapours at any temperature; 3rdly, and lastly, to direct at will the vapours to any special part of the body.

The accompanying wood-cut represents the apparatus raised and ready for use. A. Spirit lamp to warm the fluid contained in the reservoir, or to keep up its temperature. B. Perforations by means of which the lamp can be extinguished, in case the temperature of the liquid should rise too high. C. Reservoir to contain the fluid intended for fumigation. D. Large flexible tube. E. Mouth-piece intended to enclose the nose and mouth.

The smaller wood-cut represents the entire apparatus enclosed in its case.—(*Comptes rendu de l'Académie.*) *Bulletin Général de Thérapeutique Médicale et Chirurgicale*, 30 Janvier, 1850, p. 85.



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